CHAPTER 4

POINT AND NONPOINT SOURCE CHARACTERIZATION OF THE LOOSAHATCHIE RIVER WATERSHED

4.1. BACKGROUND. This chapter is organized by HUC-10 subwatershed, and the description of each subwatershed is divided into four parts:

i. General description of the subwatershed
ii. Description of point source contributions
ii.a. Description of facilities discharging to water bodies listed on the 1998 303(d) list
iii. Description of nonpoint source contributions

The Loosahatchie River Watershed (HUC 08010209) has been delineated into four HUC 10-digit subwatersheds.

Information for this chapter was obtained from databases maintained by the Division of Water Pollution Control or provided in the WCS (Watershed Characterization System) data set. The WCS used was version 1.1 beta (developed by Tetra Tech, Inc for EPA Region 4) released in 2000.

WCS integrates with ArcView® v3.2 and Spatial Analyst® v1.1 to analyze user-delineated (sub)watersheds based on hydrologically connected water bodies. Reports are generated by integrating WCS with Microsoft® Word. Land Use/Land Cover information from 1992 MRLC (Multi-Resolution Land Cover) data are calculated based on the proportion of county-based land use/land cover in user-delineated (sub)watersheds. Nonpoint source data in WCS are based on agricultural census data collected 1992–1998; nonpoint source data were reviewed by Tennessee NRCS staff.

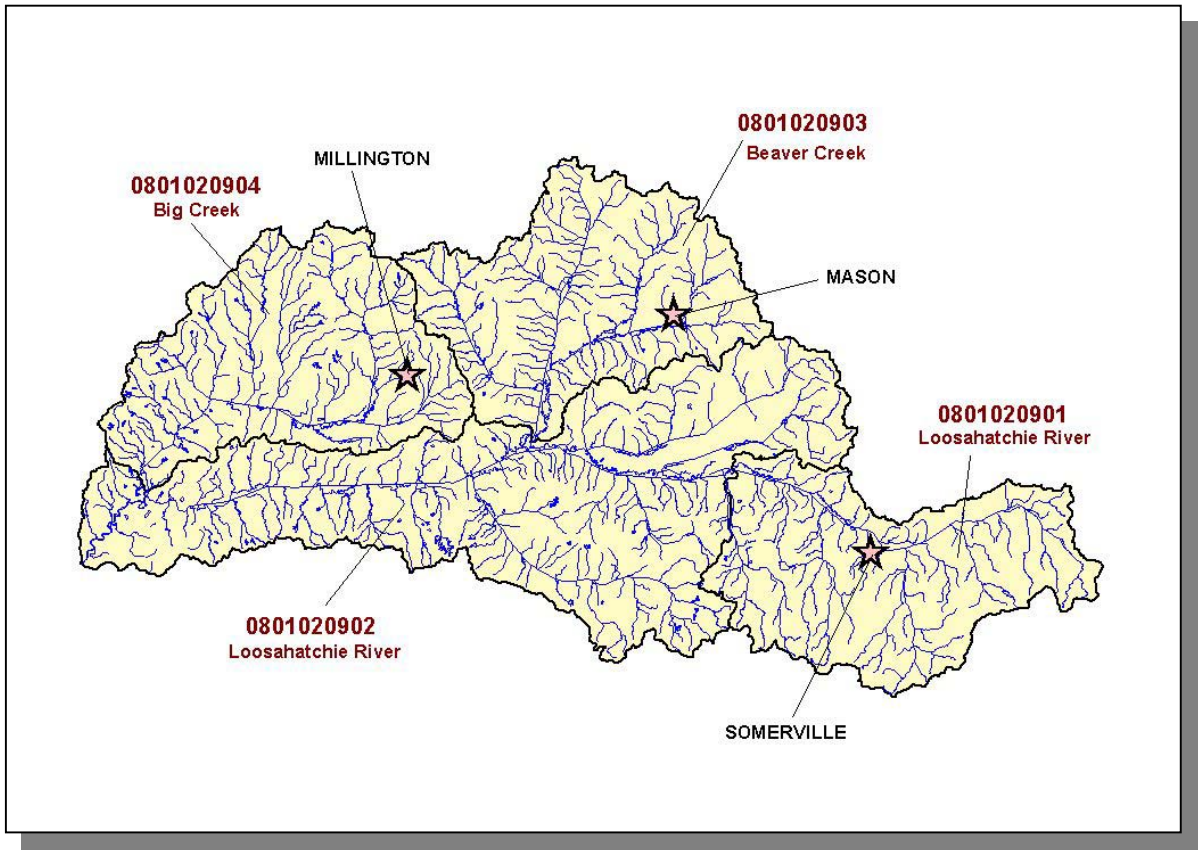

Figure 4-1. The Loosahatchie River Watershed is Composed of four USGS-Delineated Subwatersheds (10-Digit Subwatersheds). *Locations of Mason, Millington, and Somerville are shown for reference.*

4.2. CHARACTERIZATION OF HUC-10 SUBWATERSHEDS. The Watershed Characterization System (WCS) software and data sets provided by EPA Region IV were used to characterize each subwatershed in the Loosahatchie River Watershed.

HUC-10	HUC-12
0801020901	080102090101 (Loosahatchie River)
	080102090102 (Bennetts Creek)
	080102090103 (Loosahatchie River)
	080102090104 (Jones Creek)
	080102090105 (Treadville Creek)
0801020902	080102090201 (Loosahatchie River)
	080102090202 (Little Laurel Canal)
	080102090203 (Little Cypress Canal)
	080102090204 (Loosahatchie River)
	080102090205 (Clear Creek)
	080102090206 (Loosahatchie River)
0801020903	080102090301 (East Beaver Creek)
	080102090302 (Middle Beaver Creek)
	080102090303 (West Beaver Creek)
0801020904	080102090401 (Upper Big Creek)
	080102090402 (Middle Big Creek)
	080102090403 (Lower Big Creek)

Table 4-1. HUC-12 Drainage Areas are Nested Within HUC-10 Drainages. *NRCS worked with USGS to delineate the HUC-10 and HUC-12 drainage boundaries.*

4.2.A. 0801020901.

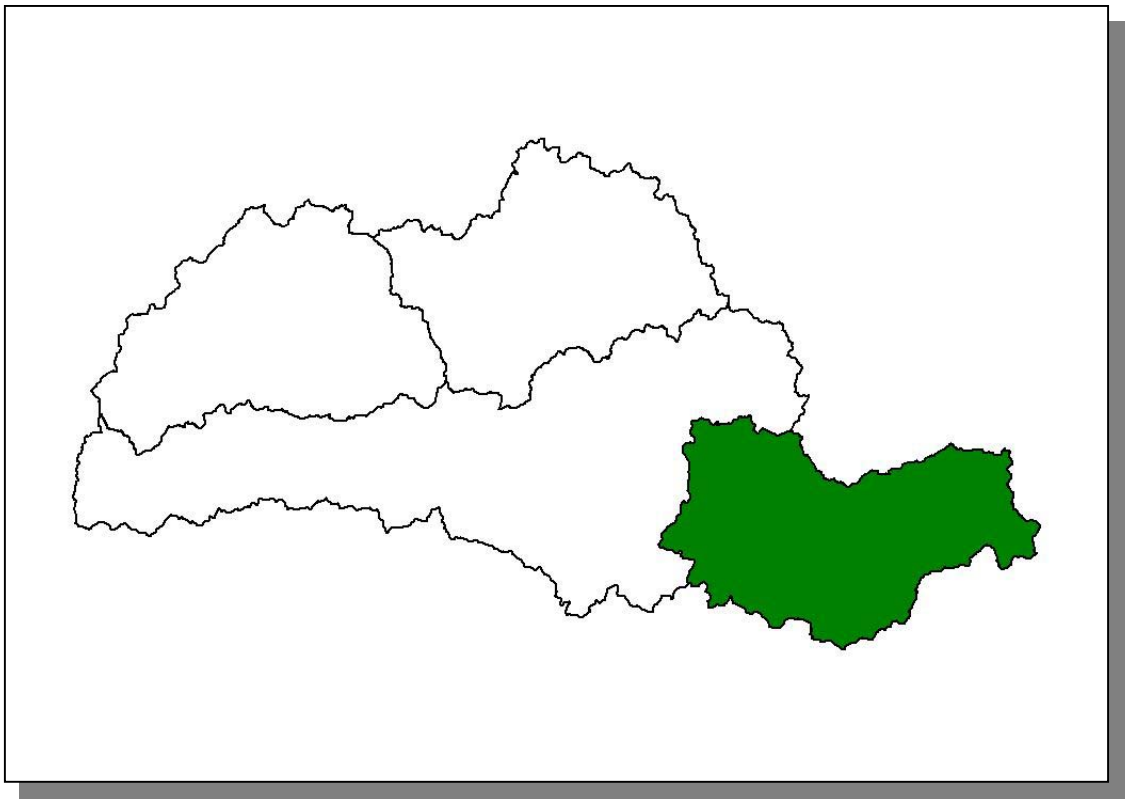

Figure 4-2. Location of Subwatershed 0801020901. *All Loosahatchie HUC-10 subwatershed boundaries are shown for reference.*

4.2.A.i. General Description.

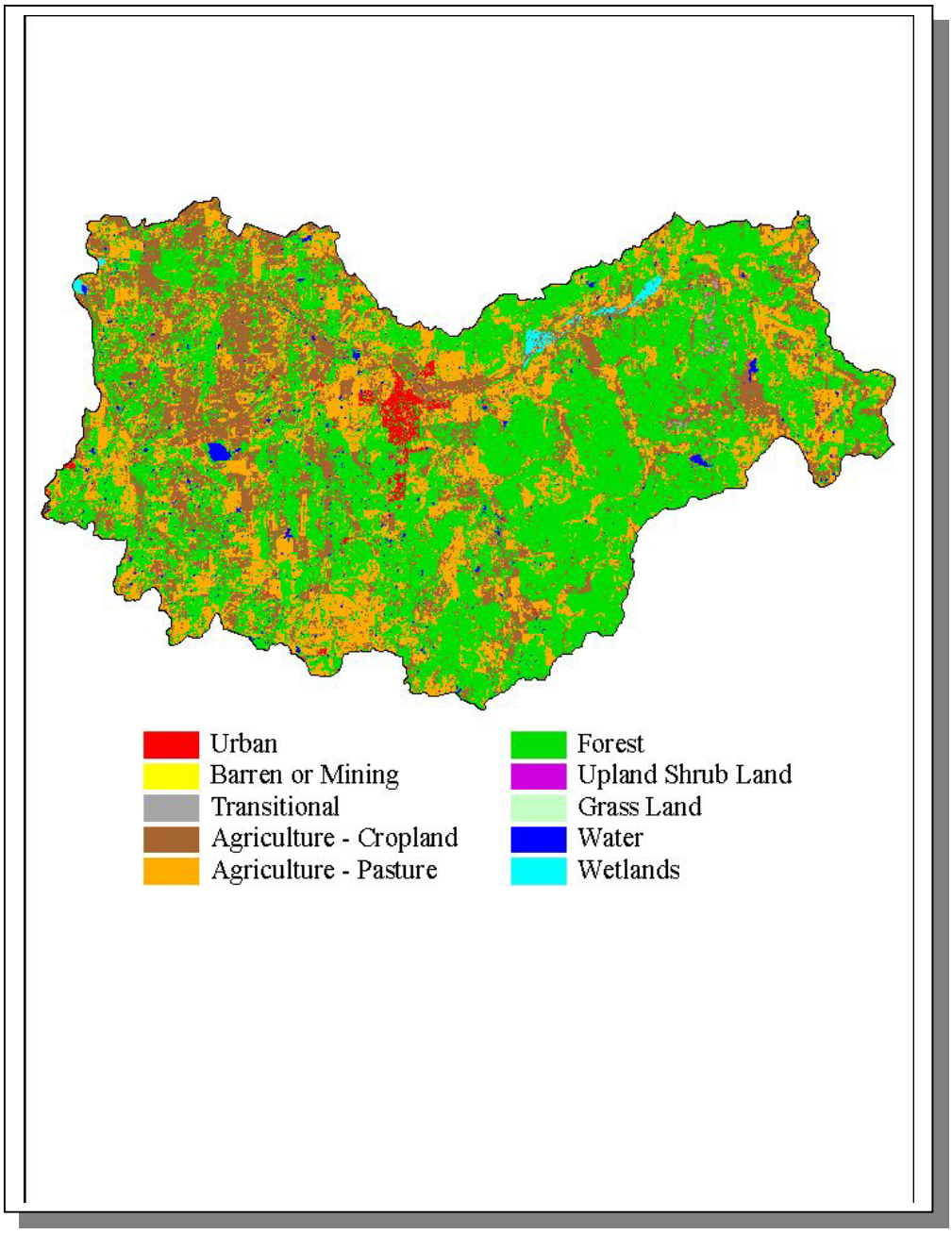

Figure 4-3. Illustration of Land Use Distribution in Subwatershed 0801020901.

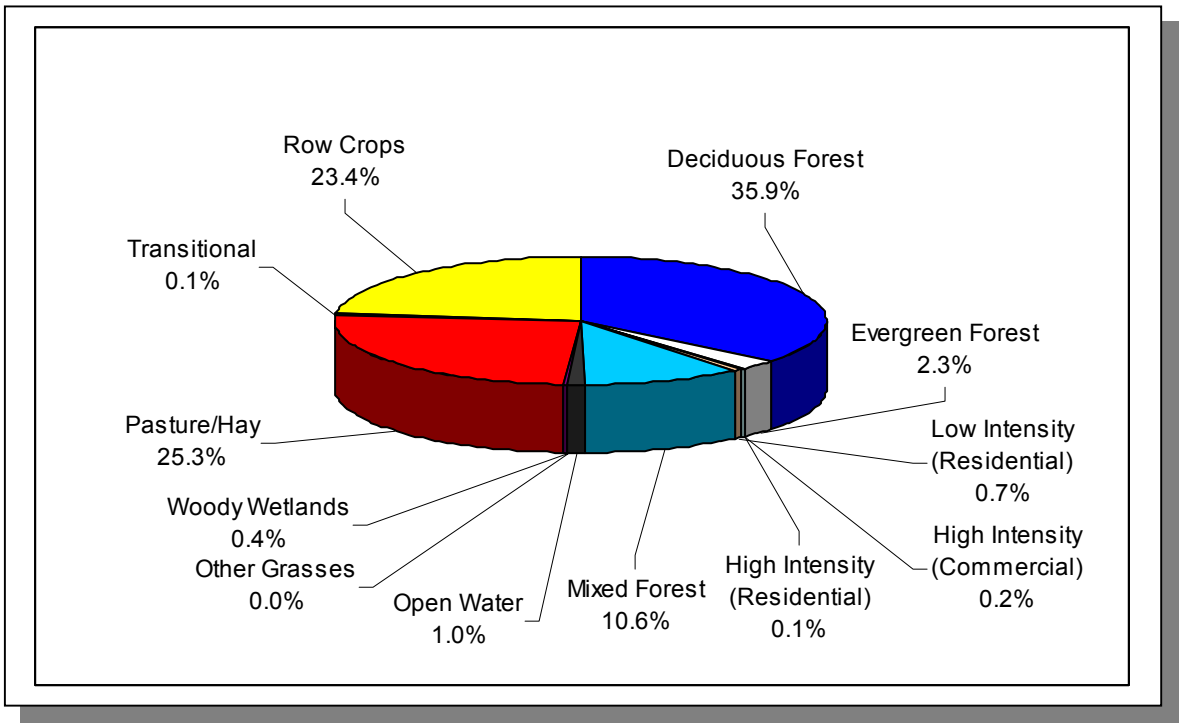

Figure 4-4. Land Use Distribution in Subwatershed 0801020901. *More information is provided in Loosahatchie-Appendix IV.*

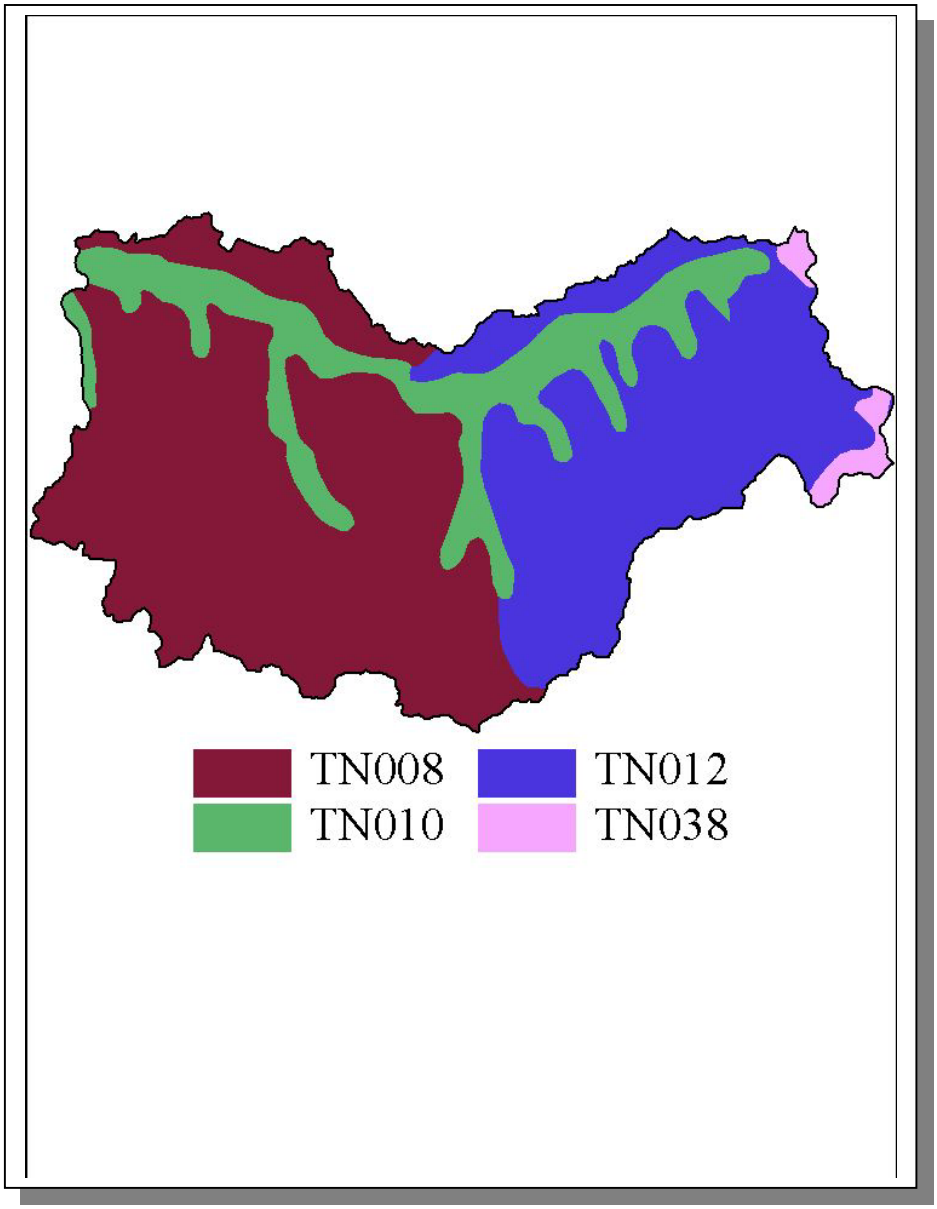

Figure 4-5. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 0801020901.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN008	2.00	C	1.38	5.20	Silty Loam	0.48
TN010	81.00	C	1.33	5.11	Silty Loam	0.44
TN012	1.00	C	2.52	5.13	Silty Loam	0.39
TN038	9.00	C	1.65	5.20	Silty Loam	0.46

Table 4-2. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 0801020901. *More details are provided in Loosahatchie-Appendix IV.*

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Fayette	25,559	29,412	20.05	5,125	5,898	15.1
Hardeman	23,377	24,702	1.47	344	364	5.8
Totals	**48,936**	**54,114**		**5,469**	**6,262**	**14.5**

Table 4-3. Population Estimates in Subwatershed 0801020901.

			NUMBER OF HOUSING UNITS			
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Oakland	Fayette	430	145	126	18	1
Somerville	Fayette	2,091	916	881	15	20
Williston	Fayette	383	146	9	133	4
Total		**2,904**	**1,207**	**1,016**	**166**	**25**

Table 4-4. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 0801020901.

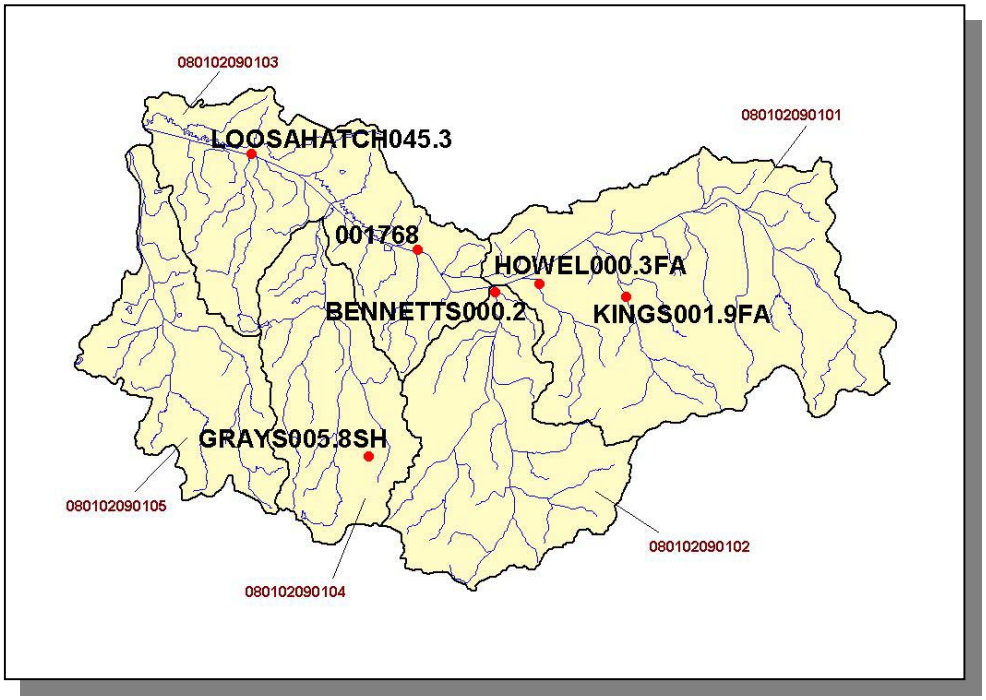

Figure 4-6. Location of Storet Monitoring Sites in Subwatershed 0801020901. *Subwatershed 080102090101, 080102090102, 080102090103, 080102090104, and 080102090105 boundaries are shown for reference. More information, including the names of facilities, is provided in Loosahatchie-Appendix IV.*

4.2.A.ii. Point Source Contributions.

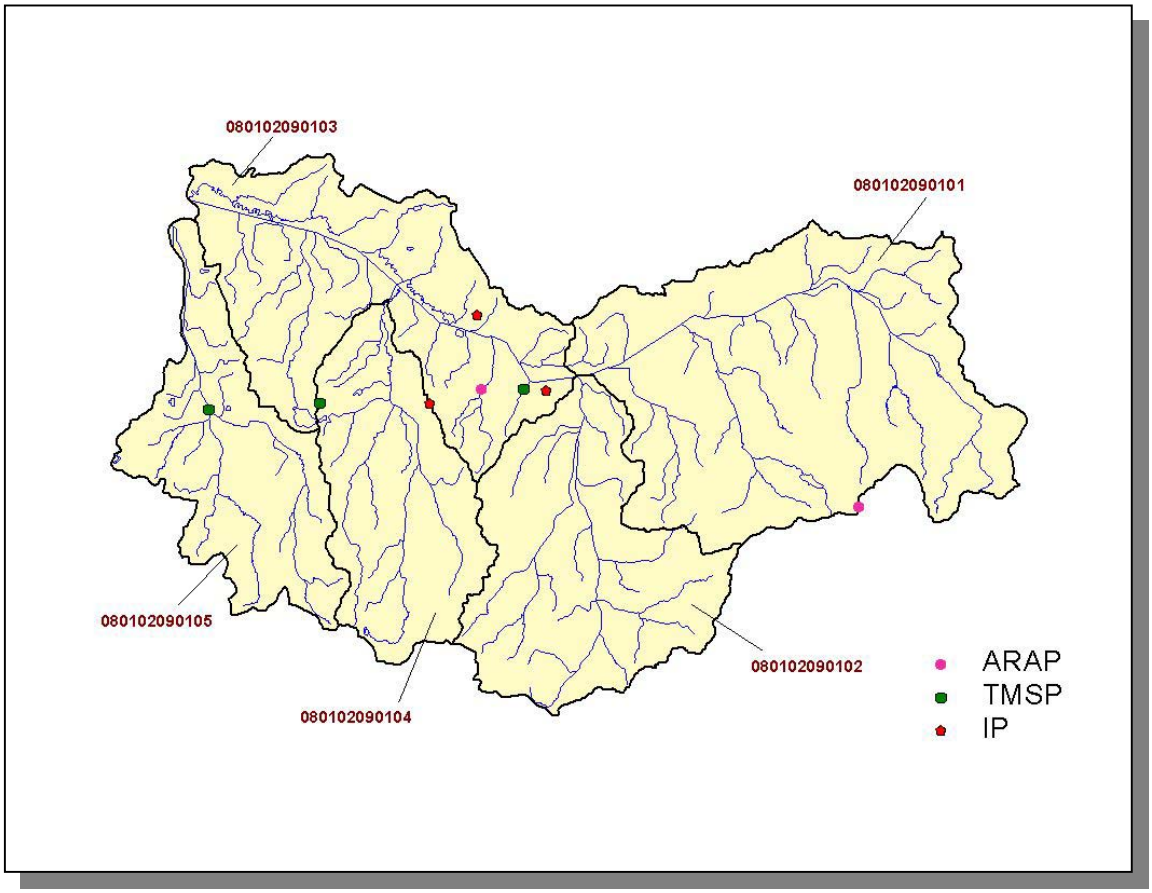

Figure 4-7. Location of Active Point Source Facilities in Subwatershed 0801020901. *Subwatershed 080102090101, 080102090102, 080102090103, 080102090104, and 080102090105 boundaries are shown for reference. More information is provided in the following charts.*

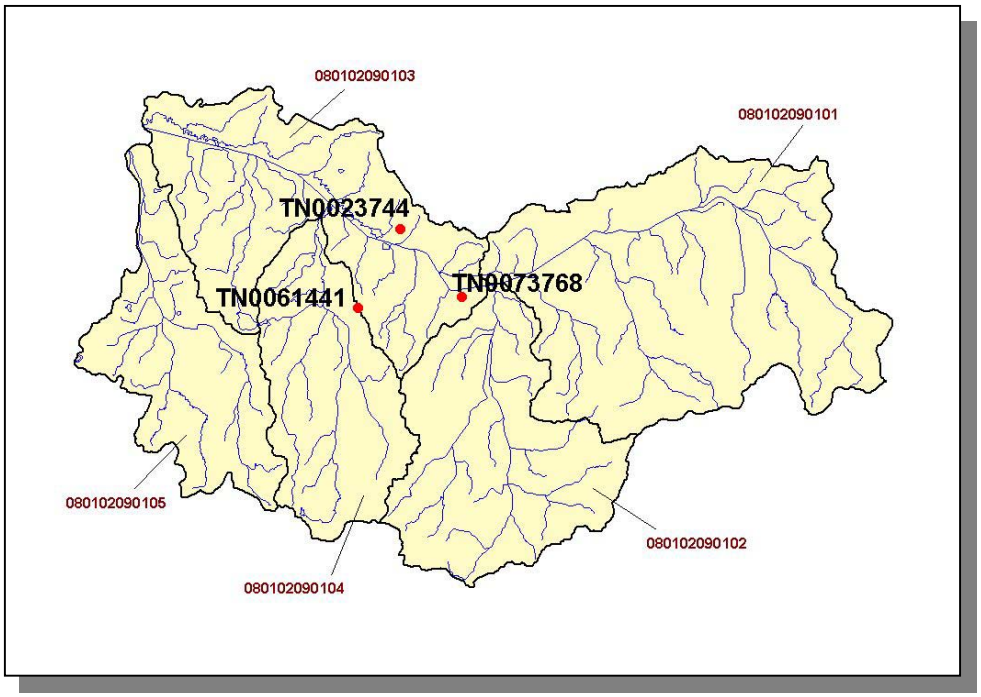

Figure 4-8. Location of Active Point Source Facilities (Individual Permits) in Subwatershed 0801020901. *Subwatershed 080102090101, 080102090102, 080102090103, 080102090104, and 080102090105 boundaries are shown for reference. More information, including the names of facilities, is provided in Loosahatchie-Appendix IV.*

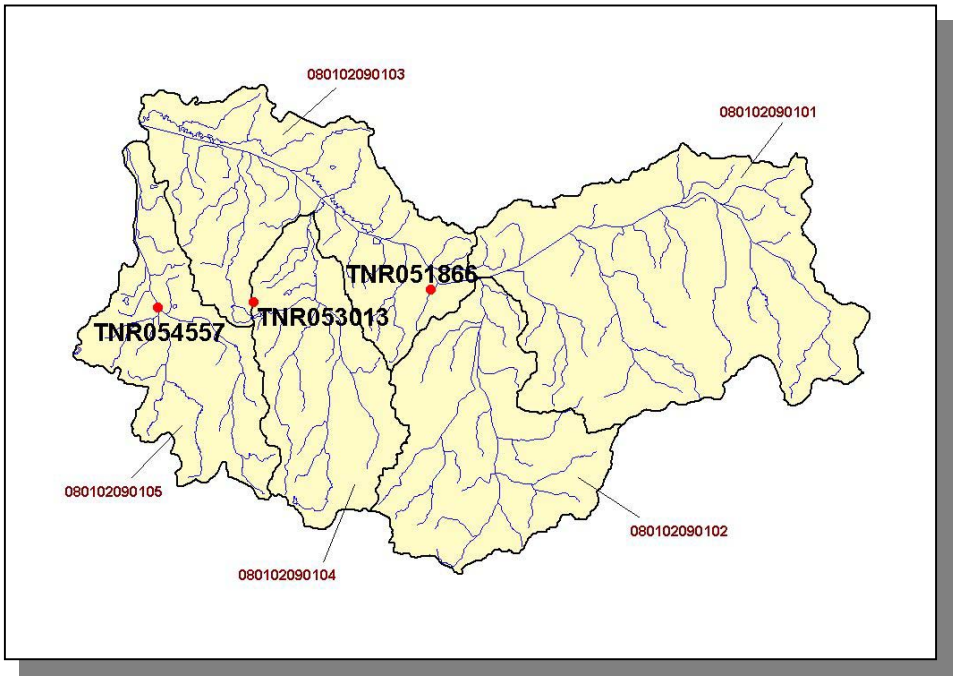

Figure 4-9. Location of TMSP Facilities in Subwatershed 0801020901. *Subwatershed 080102090101, 080102090102, 080102090103, 080102090104, and 080102090105 boundaries are shown for reference. More information, including the names of facilities, is provided in Loosahatchie-Appendix IV.*

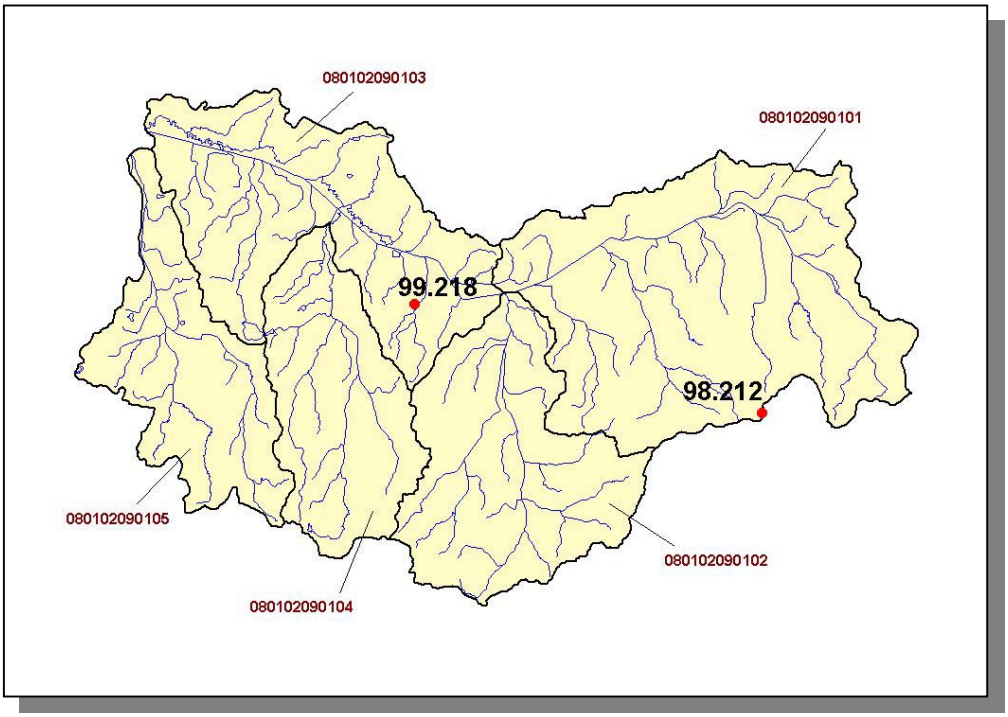

Figure 4-10. Location of ARAP Sites (Individual Permits) in Subwatershed 0801020901. *Subwatershed 080102090101, 080102090102, 080102090103, 080102090104, and 080102090105 boundaries are shown for reference. More information, including the names of facilities, is provided in Loosahatchie-Appendix IV.*

4.2.A.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)						
Beef Cow	Cattle	Milk Cow	Chickens	Chickens Sold	Hogs	Sheep
3,663	6,863	233	5	0	6,369	37

Table 4-5. Summary of Livestock Count Estimates in Subwatershed 0801020901. *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older; "Chickens Sold" are all chickens used to produce meat.*

	INVENTORY		REMOVAL RATE	
County	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Fayette	152.0	152.0	1.1	3.3
Hardeman	247.1	247.1	5.0	18.6
Totals	**399.1**	**399.1**	**6.1**	**21.9**

Table 4-6. Forest Acreage and Annual Removal Rates (1987-1994) in Subwatershed 0801020901.

CROPS	TONS/ACRE/YEAR
Corn (Row Crops)	19.12
Soybeans (Row Crops)	10.06
Cotton (Row Crops)	10.15
Sorghum (Row Crops)	3.04
Grass (Hayland)	0.34
Legume (Hayland)	0.16
Legume/Grass (Hayland)	0.22
Grass (Pastureland)	0.48
Grass,Forbs, Legumes (Mixed Pasture)	0.78
Forest Land (Grazed)	0.00
Forest Land (Not Grazed)	0.00
Conservation Reserve Program Land	0.44
Wheat (Close Grown Cropland)	3.55
Fruit (Horticultural)	0.39
Summer Fallow (Other Cropland)	6.11
Other Cropland (Not Planted)	1.68
Farmsteads and Ranch Headquarters	0.18

Table 4-7. Annual Estimated Total Soil Loss in Subwatershed 0801020901.

4.2.B. 0801020902.

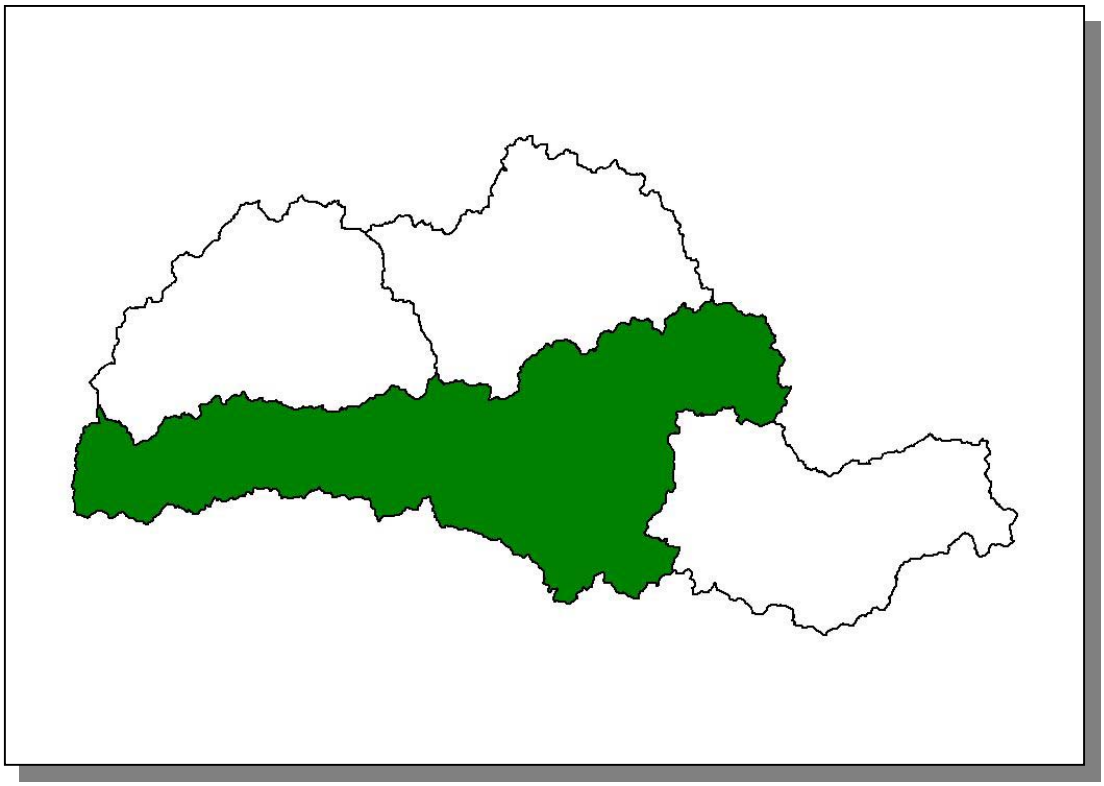

Figure 4-11. Location of Subwatershed 0801020902. *All Loosahatchie HUC-10 subwatershed boundaries are shown for reference.*

4.2.B.i. General Description.

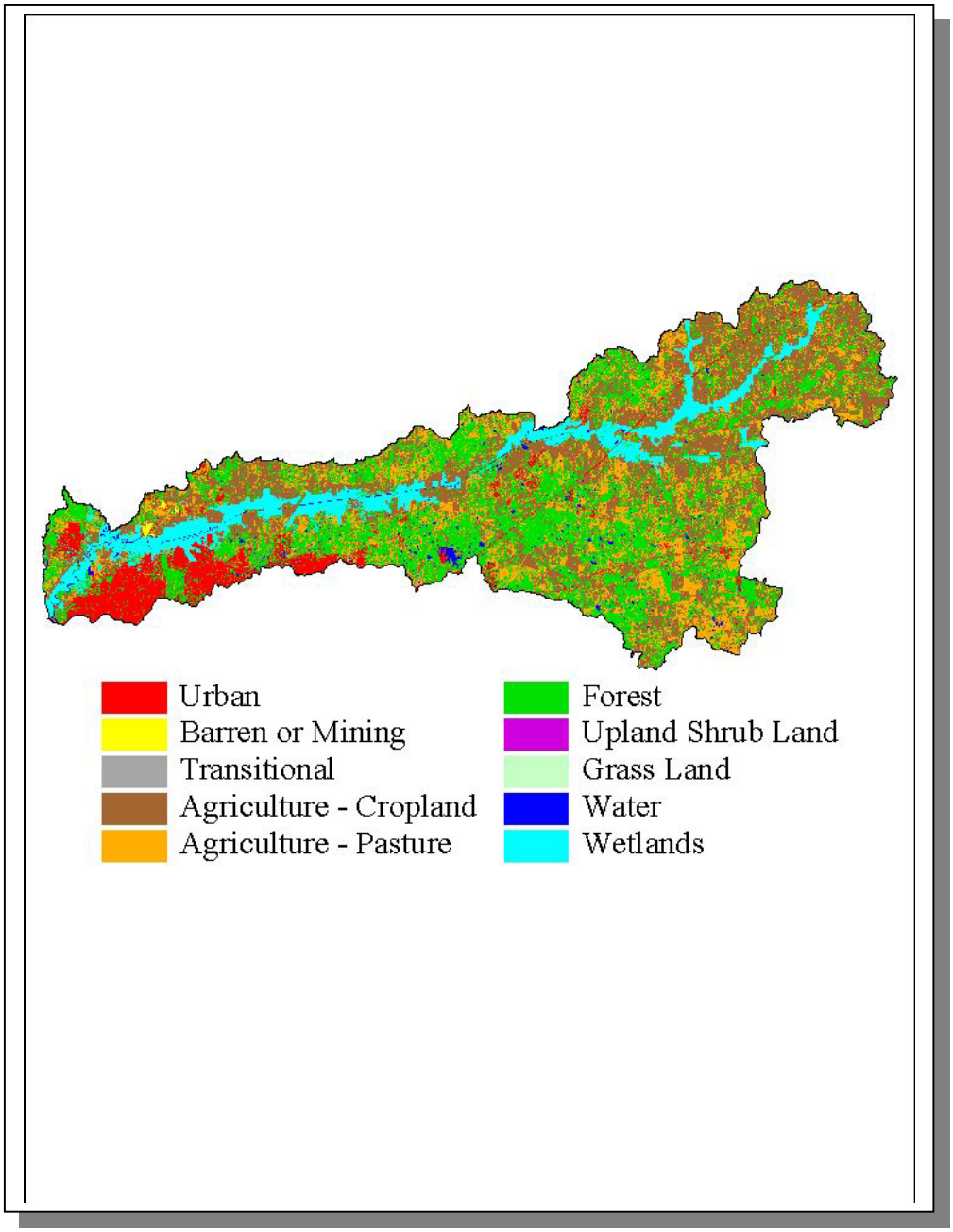

Figure 4-12. Illustration of Land Use Distribution in Subwatershed 0801020902.

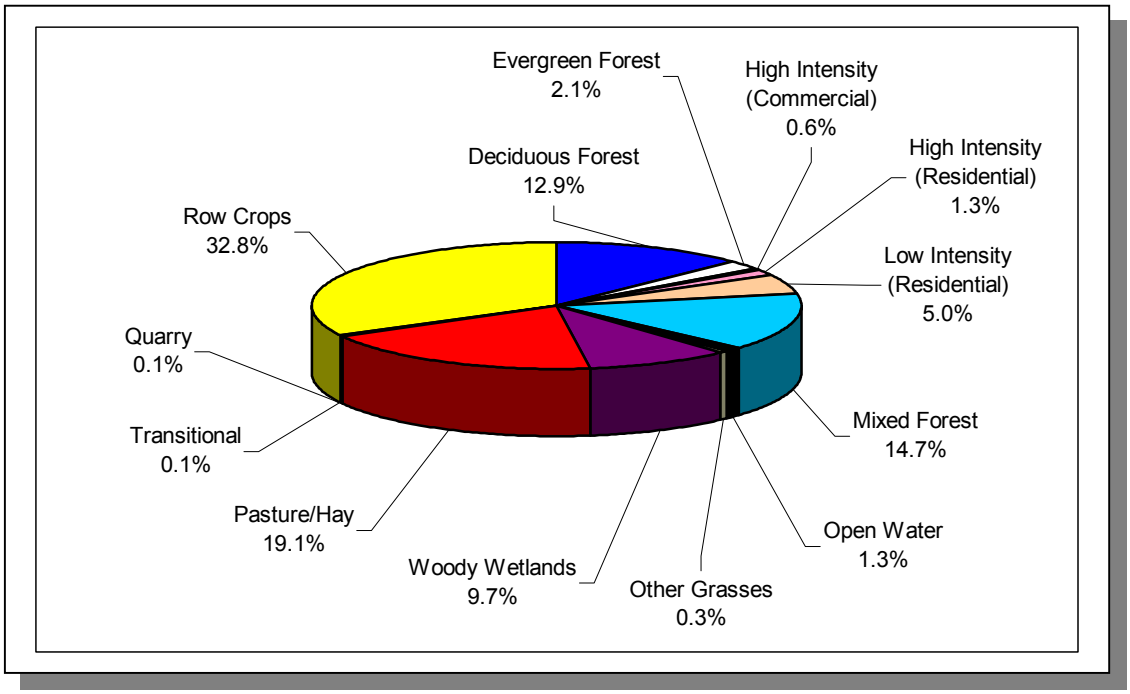

Figure 4-13. Land Use Distribution in Subwatershed 0801020902. *More information is provided in Loosahatchie-Appendix IV.*

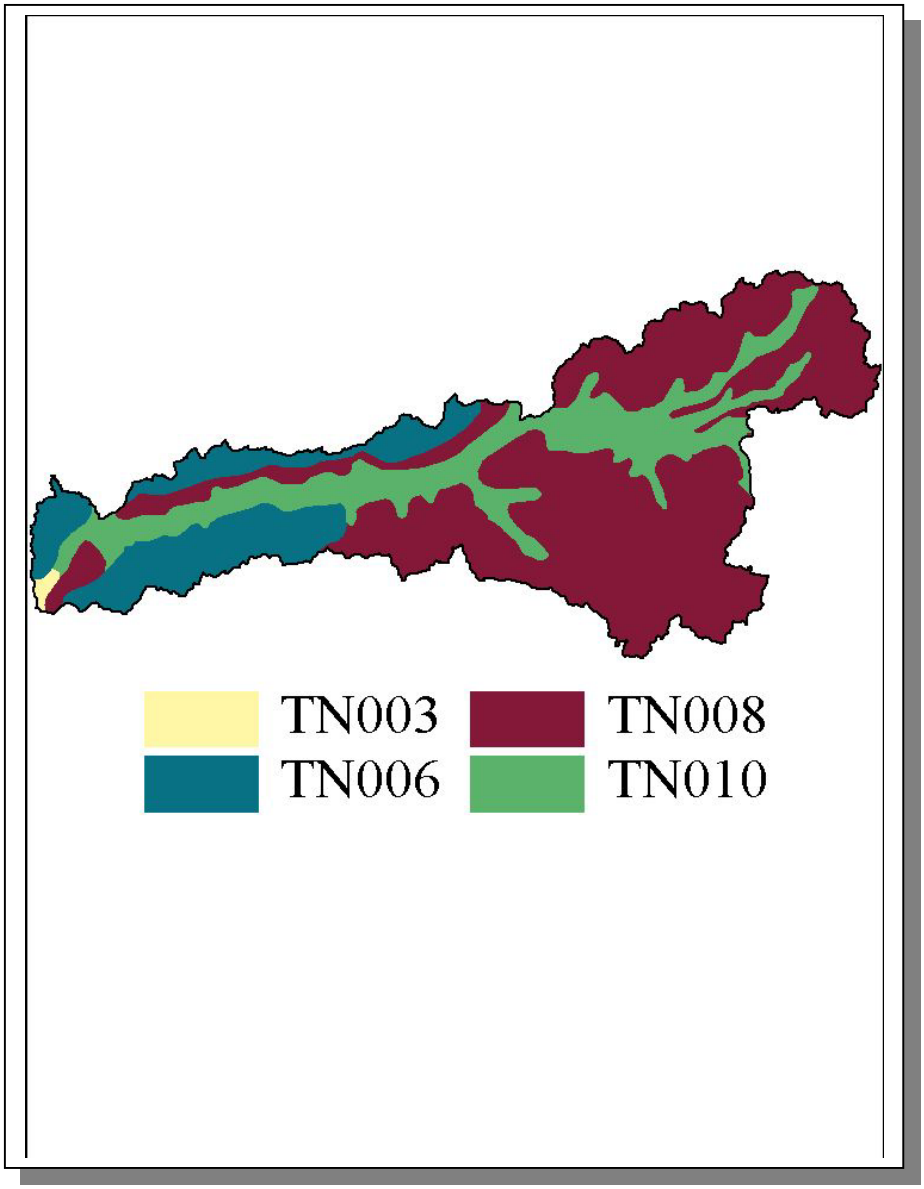

Figure 4-14. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 0801020902.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN001	14.00	C	2.31	7.00	Silty Loam	0.33
TN003	62.00	C	0.50	6.65	Silty Clay	0.33
TN006	0.00	C	1.30	5.42	Silty Loam	0.48
TN008	2.00	C	1.38	5.20	Silty Loam	0.48
TN010	81.00	C	1.33	5.11	Silty Loam	0.44

Table 4-8. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 0801020902. *More information is provided in Loosahatchie-Appendix IV.*

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		PERCENT CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Fayette	25,559	29,412	21.63	5,528	6,321	15.1
Shelby	826,330	865,318	17.51	144,689	151,515	4.7
Total	**851,889**	**894,730**		**150,217**	**157,876**	**5.1**

Table 4-9. Population Estimates in Subwatershed 0801020902.

			NUMBER OF HOUSING UNITS			
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Arlington	Shelby	1,541	372	338	32	2
Bartlett	Shelby	26,989	8,807	8,545	217	45
Lakeland	Shelby	7,484	3,900	3,744	154	2
Memphis	Shelby	610,337	248,573	247,138	793	642
Millington	Shelby	17,866	4,440	4,269	37	134
Braden	Fayette	373	141	6	129	6
Gallaway	Fayette	743	220	165	47	8
Oakland	Fayette	430	145	126	18	1
Total		**659,483**	**263,173**	**260,906**	**1,427**	**840**

Table 4-10. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 0801020902.

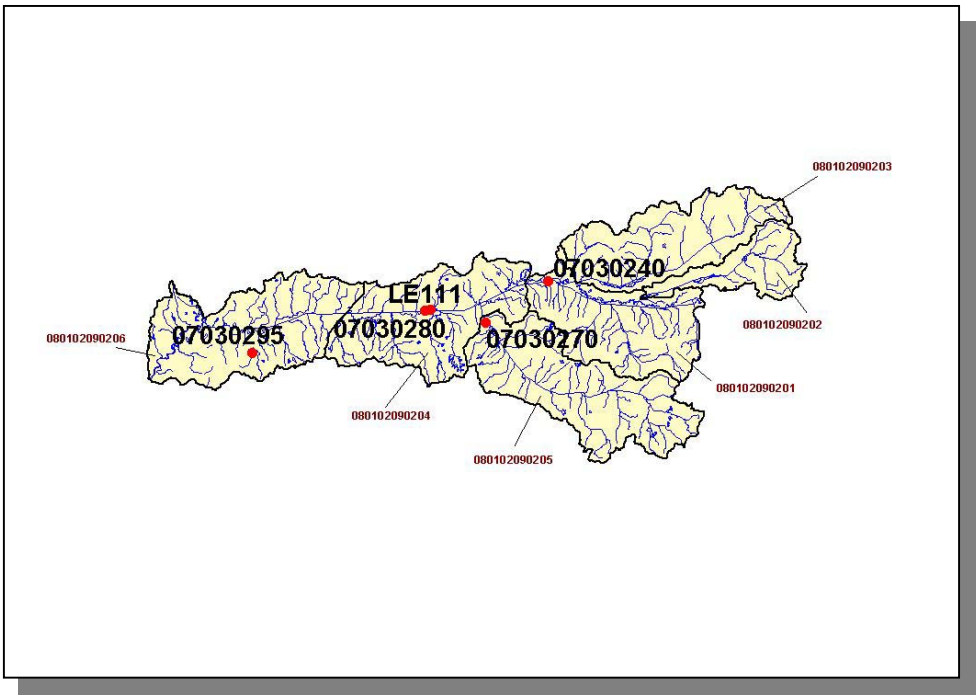

Figure 4-15. Location of Historical Streamflow Data Collection Sites in Subwatershed 0801020902. *Subwatershed 080102090201, 080102090202, 080102090203, 080102090204, 080102090205, and 080102090206 boundaries are shown for reference. More information is provided in Loosahatchie-Appendix IV.*

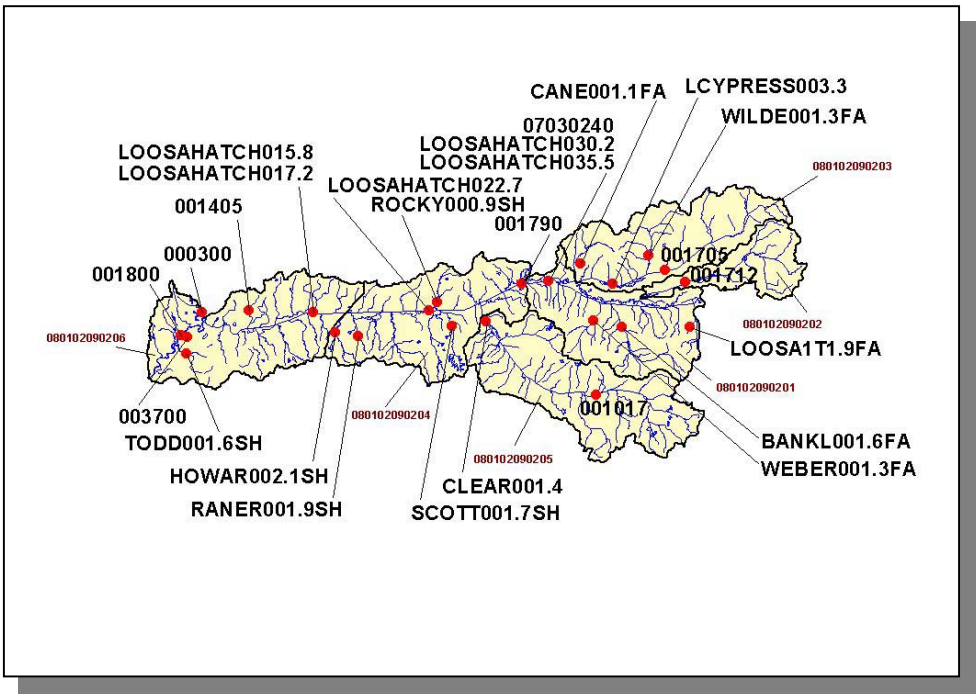

Figure 4-16. Location of STORET Monitoring Sites in Subwatershed 0801020902. *Subwatershed 080102090201, 080102090202, 080102090203, 080102090204, 080102090205, and 080102090206 boundaries are shown for reference. More information is provided in Loosahatchie-Appendix IV.*

4.2.B.ii. Point Source Contributions.

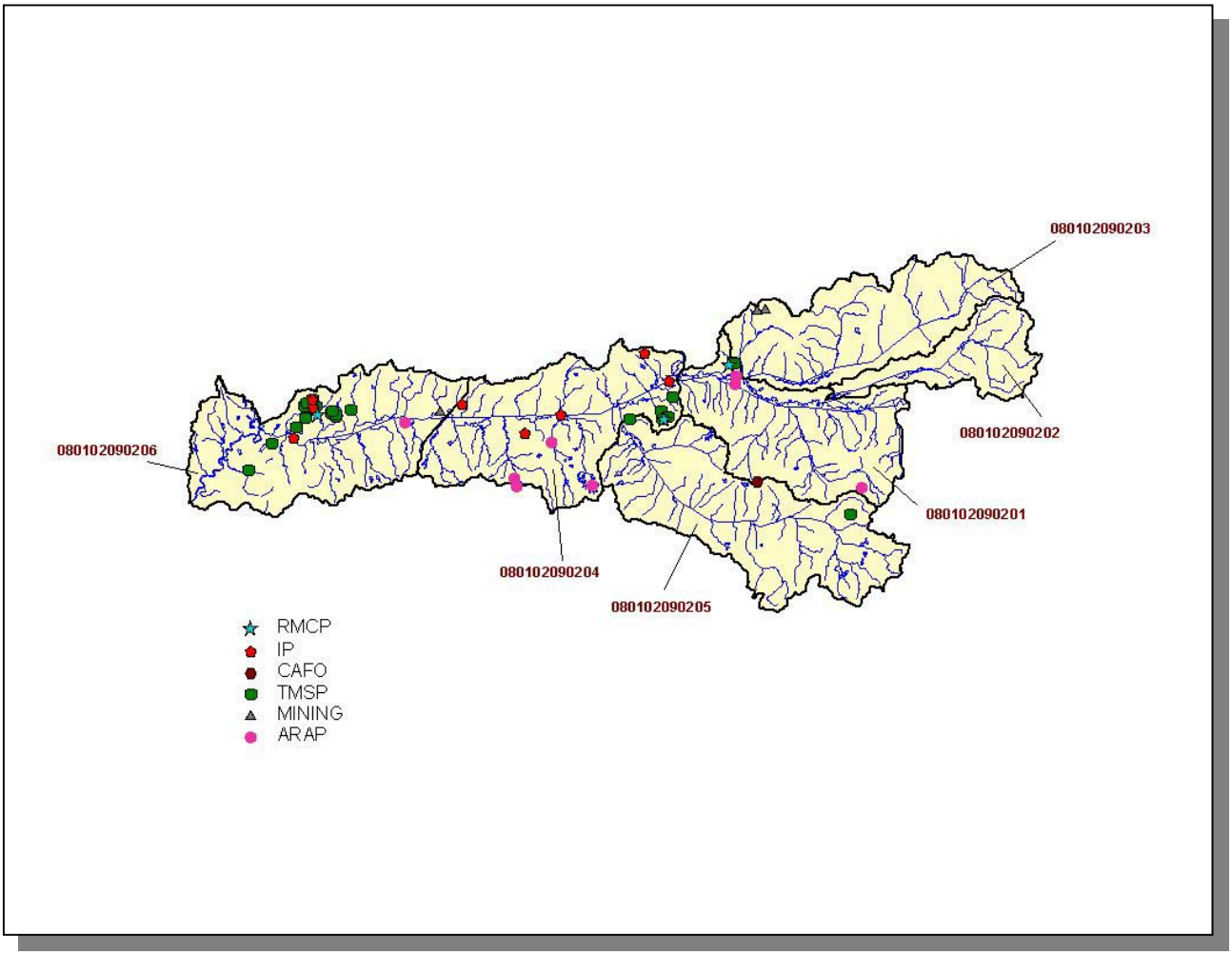

Figure 4-17. Location of Active Point Source Facilities in Subwatershed 0801020902. *Subwatershed 080102090201, 080102090202, 080102090203, 080102090204, 080102090205, and 080102090206 boundaries are shown for reference. More information is provided in the following charts.*

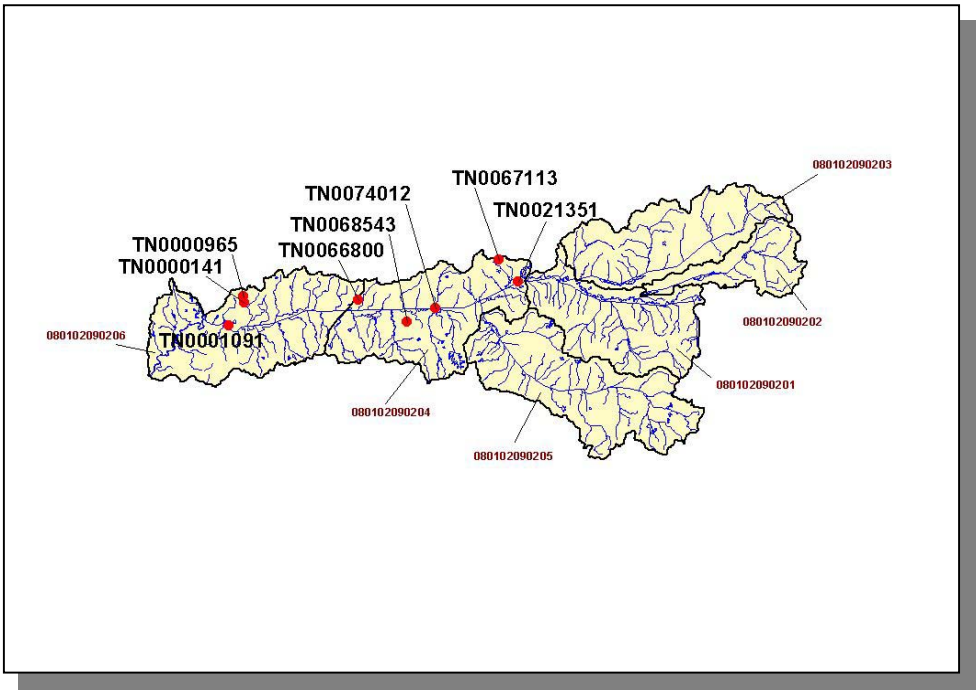

Figure 4-18. Location of Active Point Source Facilities (Individual Permits) in Subwatershed 0801020902. *Subwatershed 080102090201, 080102090202, 080102090203, 080102090204, 080102090205, and 080102090206 boundaries are shown for reference. More information, including the names of facilities, is provided in Loosahatchie-Appendix IV.*

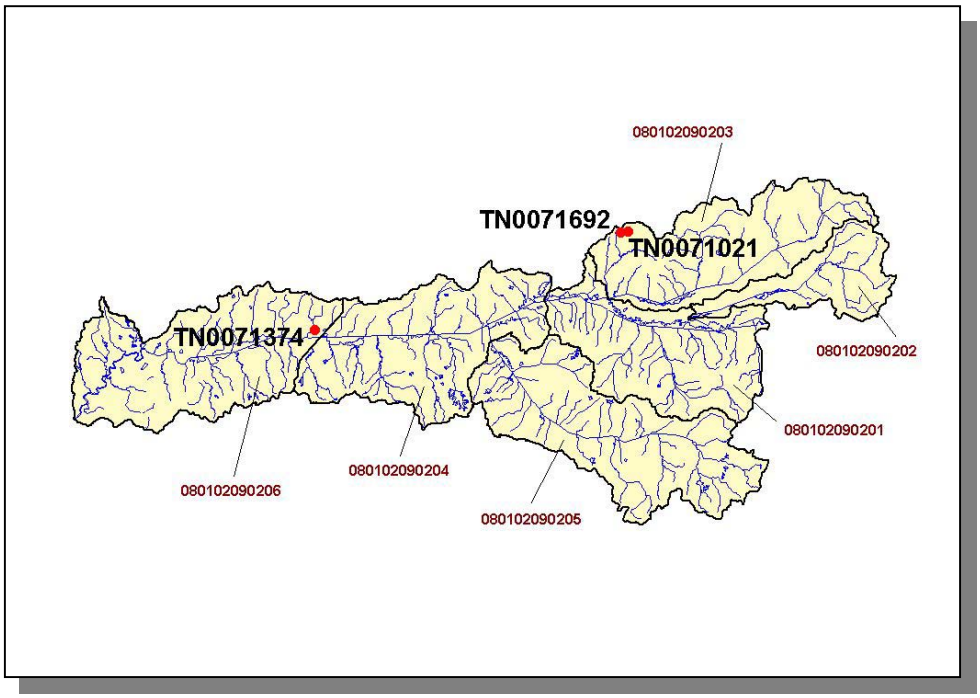

Figure 4-19. Location of Active Mining Sites in Subwatershed 0801020902. *Subwatershed 080102090201, 080102090202, 080102090203, 080102090204, 080102090205, and 080102090206 boundaries are shown for reference. More information, including the names of facilities, is provided in Loosahatchie-Appendix IV.*

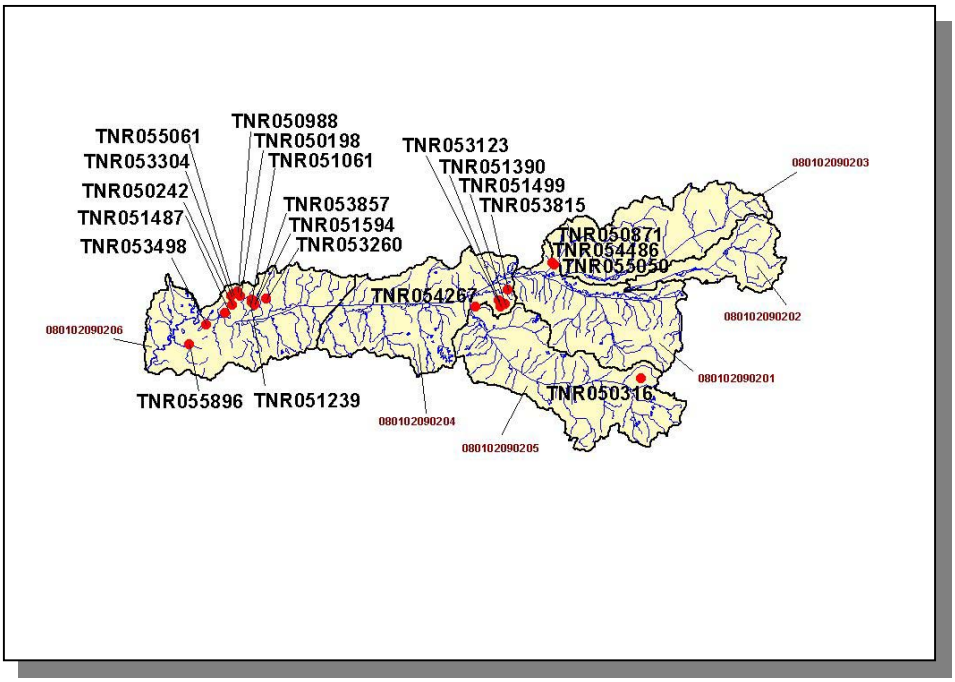

Figure 4-20. Location of TMSP Facilities in Subwatershed 0801020902. *Subwatershed 080102090201, 080102090202, 080102090203, 080102090204, 080102090205, and 080102090206 boundaries are shown for reference. More information, including the names of facilities, is provided in Loosahatchie-Appendix IV.*

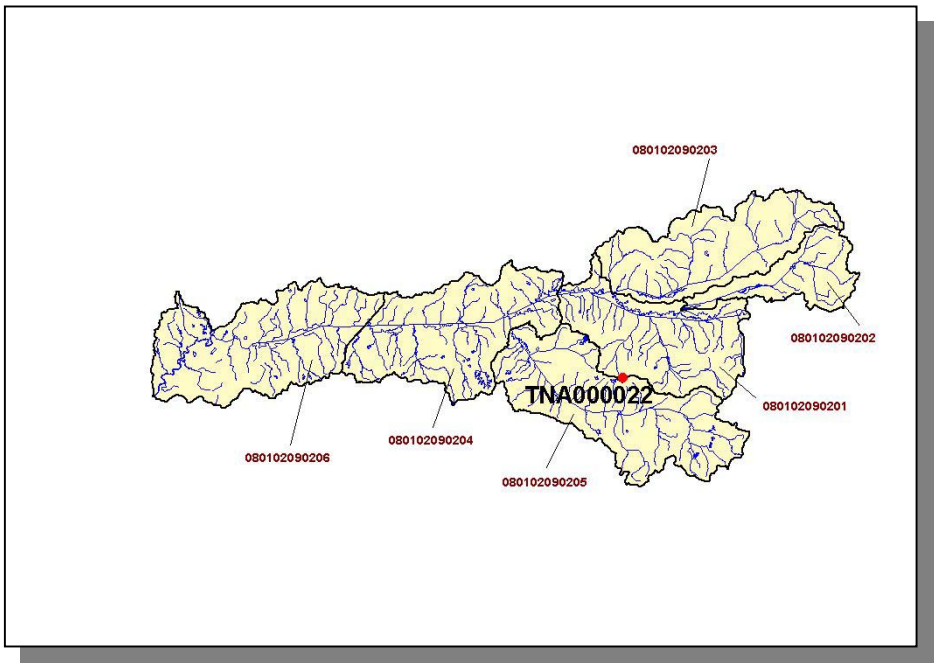

Figure 4-21. Location of CAFO Facilities in Subwatershed 0801020902. *Subwatershed 080102090201, 080102090202, 080102090203, 080102090204, 080102090205, and 080102090206 boundaries are shown for reference. CAFO rules may be found at http://cfpub.epa.gov/npdes/afo/cafofinalrule.cfm. More information, including the names of facilities, is provided in Loosahatchie-Appendix IV.*

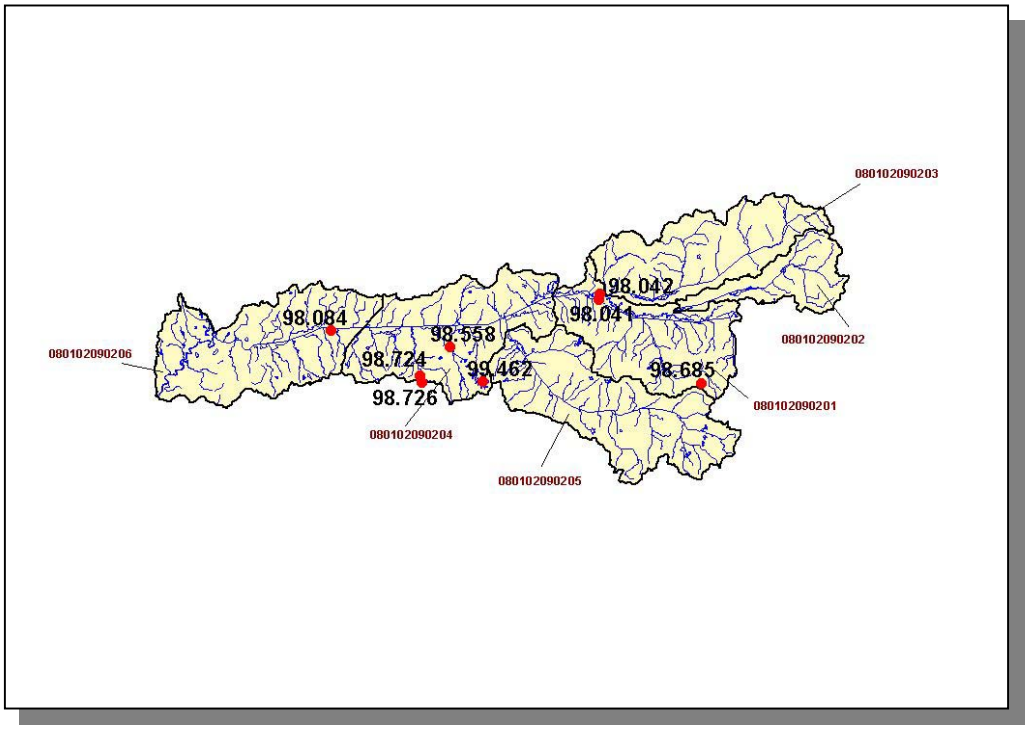

Figure 4-22. Location of ARAP Sites (Individual Permits) in Subwatershed 0801020902. *Subwatershed 080102090201, 080102090202, 080102090203, 080102090204, 080102090205, and 080102090206 boundaries are shown for reference. More information, including the names of facilities, is provided in Loosahatchie-Appendix IV.*

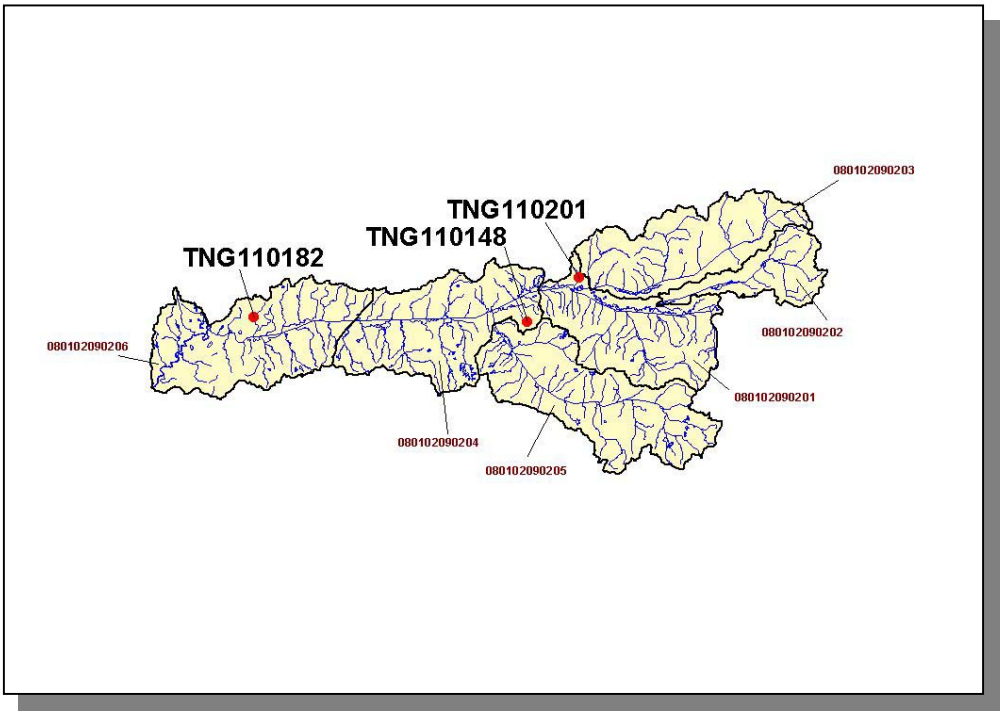

Figure 4-23. Location of Ready Mix Concrete Plants (RMCP) in Subwatershed 0801020902. *Subwatershed 080102090201, 080102090202, 080102090203, 080102090204, 080102090205, and 080102090206 boundaries are shown for reference. More information, including the names of facilities, is provided in Loosahatchie-Appendix IV.*

4.2.A.ii.a. Dischargers to Water Bodies Listed on the 1998 303(d) List

There are six NPDES facilities discharging to water bodies listed on the 1998 303(d) list in Subwatershed 0801020902:

- TN0000141 (PCS Nitrogen fertilizer) discharges to a wet weather conveyance to the Loosahatchie River @ RM 11.7
- TN0000965 (Air Liquide America) discharges to a wet weather conveyance to the Loosahatchie River @ RM 11.8
- TN0001091 (E.I. DuPont and Co.) discharges to the Loosahatchie River @ RM 11.8
- TN0066800 (Bartlett STP #1) discharges to the Loosahatchie River @ RM 18.4
- TN0068543 (Bartlett STP #2) discharges to the Loosahatchie River @ RM 24.0
- TN0074012 (Lakeland Lagoon) discharges to the Loosahatchie River @ RM 24.1

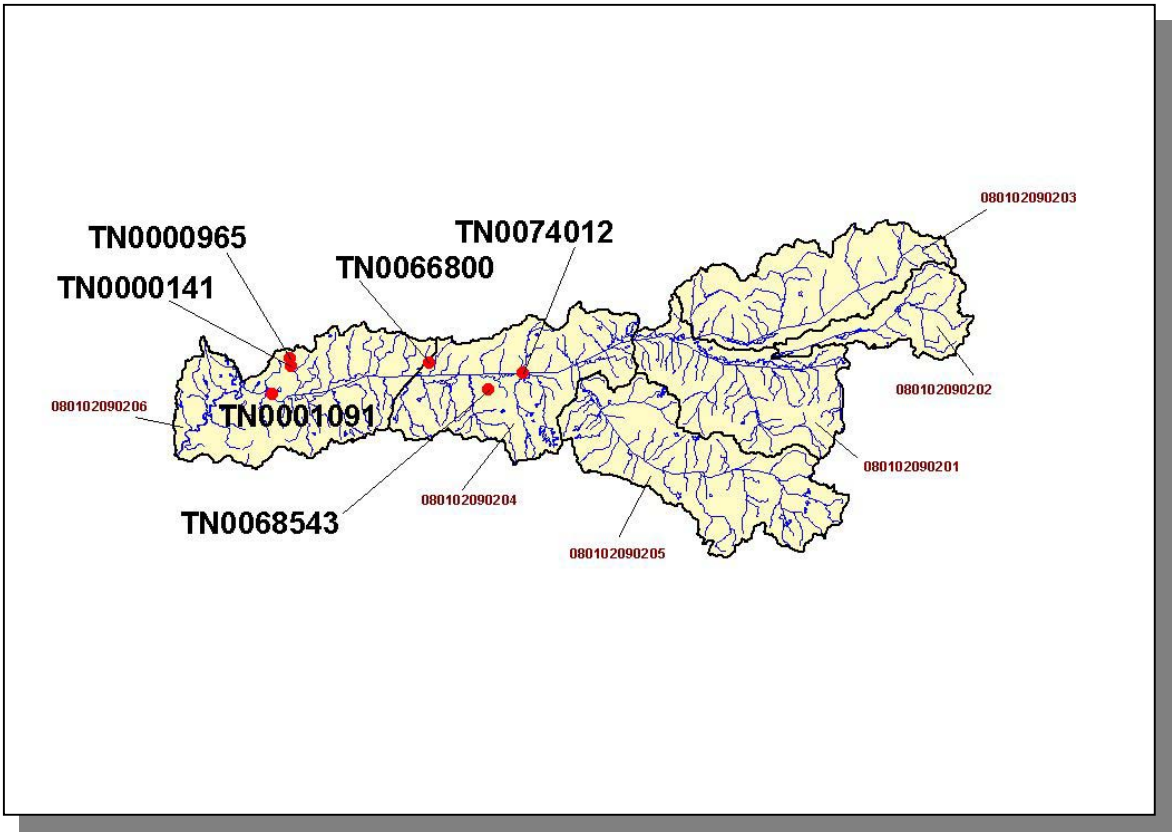

Figure 4-24. Location of NPDES Dischargers to Water Bodies Listed on the 1998 303(d) List in Subwatershed 0801020902. *Subwatershed 080102090201, 080102090202, 080102090203, 080102090204, 080102090205, and 080102090206 boundaries are shown for reference. More information, including the names of facilities, is provided in Loosahatchie-Appendix IV.*

PERMIT #	1Q10	3Q10	7Q10	3Q20	QDESIGN
TN0000141				32.19	0.38000
TN0000965			37.03		0.01700
TN0001091	36.00	36.32	37.03	32.19	6.12000
TN0066800	36.00	36.32	37.03	32.19	2.20000
TN0068543	36.00	36.32	37.03	32.19	0.50000
TN0074012	36.00	36.32	37.03	32.19	0.50000

Table 4-11. Receiving Stream Flow Information for NPDES Dischargers to Waterbodies Listed on the 1998 303(d) List in Subwatershed 0801020902. *Data are in million gallons per day (MGD). Data were obtained from the USGS publication Flow Duration and Low Flows of Tennessee Streams Through 1992 or from permit files.*

PERMIT #	$CBOD_5$	BOD_5	pH	WET	NH_3	FECAL	TRC	SETTLEABLE SOLIDS	OIL and GREASE	TSS	DO
TN0000141	X		X	X	X		X		X	X	X
TN0000965			X						X		
TN0001091		X	X	X					X	X	
TN0066800	X		X	X	X	X		X		X	X
TN0068543	X		X			X	X	X		X	X
TN0074012	X		X		X	X	X	X		X	X

Table 4-12. Parameters Monitored for Daily Maximum (mg/L) Limits for NPDES Dischargers to Waterbodies Listed on the 1998 303(d) List in Subwatershed 0801020902. *$CBOD_5$, Carbonaceous Biochemical Oxygen Demand (5-Day); BOD_5, Biocemical Oxygen Demand (5-Day); WET, Whole Effluent Toxicity; TRC, Total Residual Chlorine; TSS, Total Suspended Solids; DO, Dissolved Oxygen.*

4.2.B.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)						
Beef Cow	Cattle	Milk Cow	Chickens	Chickens Sold	Hogs	Sheep
4,640	8,548	237	13	0	6,072	74

Table 4-13. Summary of Livestock Count Estimates in Subwatershed 0801020902. *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older; "Chickens Sold" are all chickens used to produce meat.*

	INVENTORY		REMOVAL RATE	
County	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Fayette	152.0	152.0	1.0	3.3
Shelby	111.6	111.6	0.0	0.0
Total	**263.6**	**263.6**	**1.1**	**3.3**

Table 4-14. Forest Acreage and Average Annual Removal Rates (1987-1994) in Subwatershed 0801020902.

CROPS	TONS/ACRE/YEAR
Grass, Forbs, Legumes (Mixed Pasture)	0.51
Grass (Pastureland)	0.39
Legume/Grass (Hayland)	0.22
Legume (Hayland)	2.23
Grass (Hayland)	0.22
Forest Land (Grazed)	0.00
Forest Land (Not Grazed)	0.00
Corn (Row Crops)	13.09
Soybeans (Row Crops)	10.91
Cotton (Row Crops)	9.81
Sorghum (Row Crops)	4.91
Wheat (Close Grown Cropland)	3.46
Summer Fallow (Other Cropland)	12.43
Fruit (Horticulture)	0.39
Conservation Reserve Program Lands	0.61
Other Vegetable and Truck Crops	5.87
All Other Crops not Planted	4.80
Non Agricultural Land Use	0.00
Farmsteads and Ranch Headquarters	0.28

Table 4-15. Annual Estimated Total Soil Loss in Subwatershed 0801020902.

4.2.C. 0801020903.

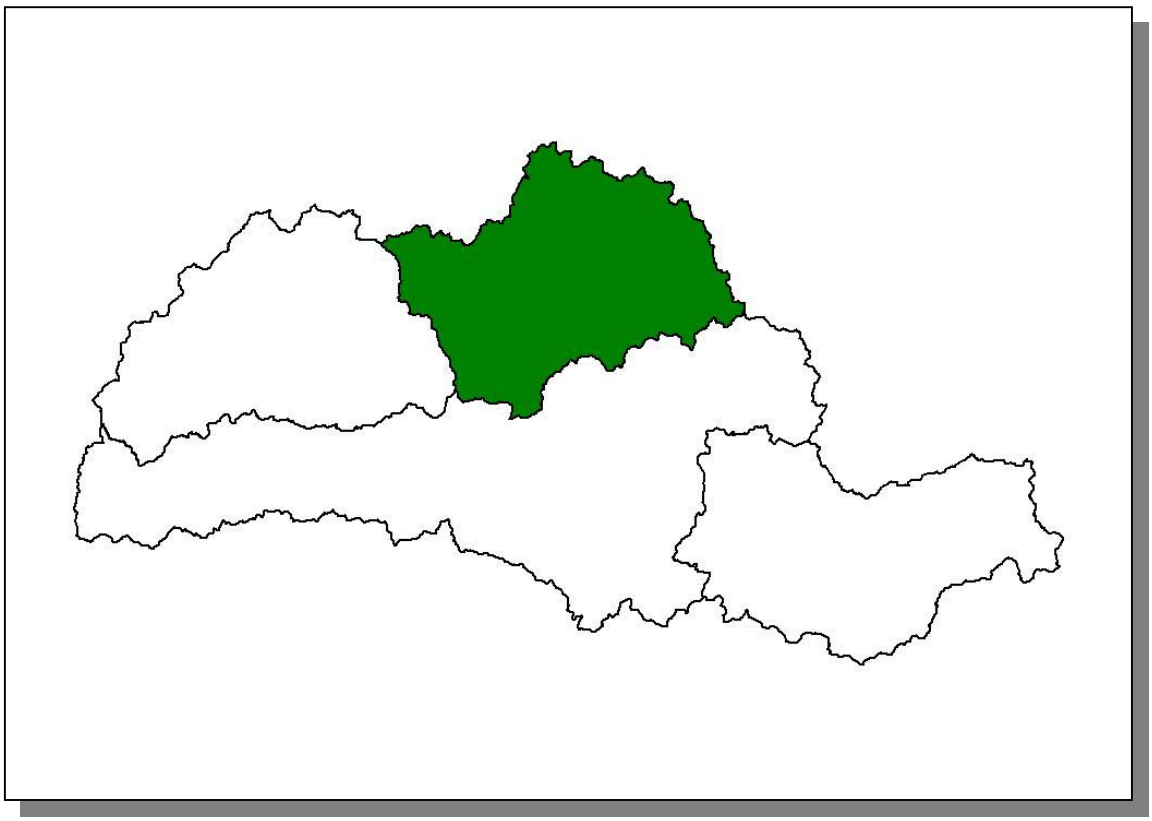

Figure 4-25. Location of Subwatershed 0801020903. *All Loosahatchie HUC-10 subwatershed boundaries are shown for reference.*

4.2.C.i. General Description.

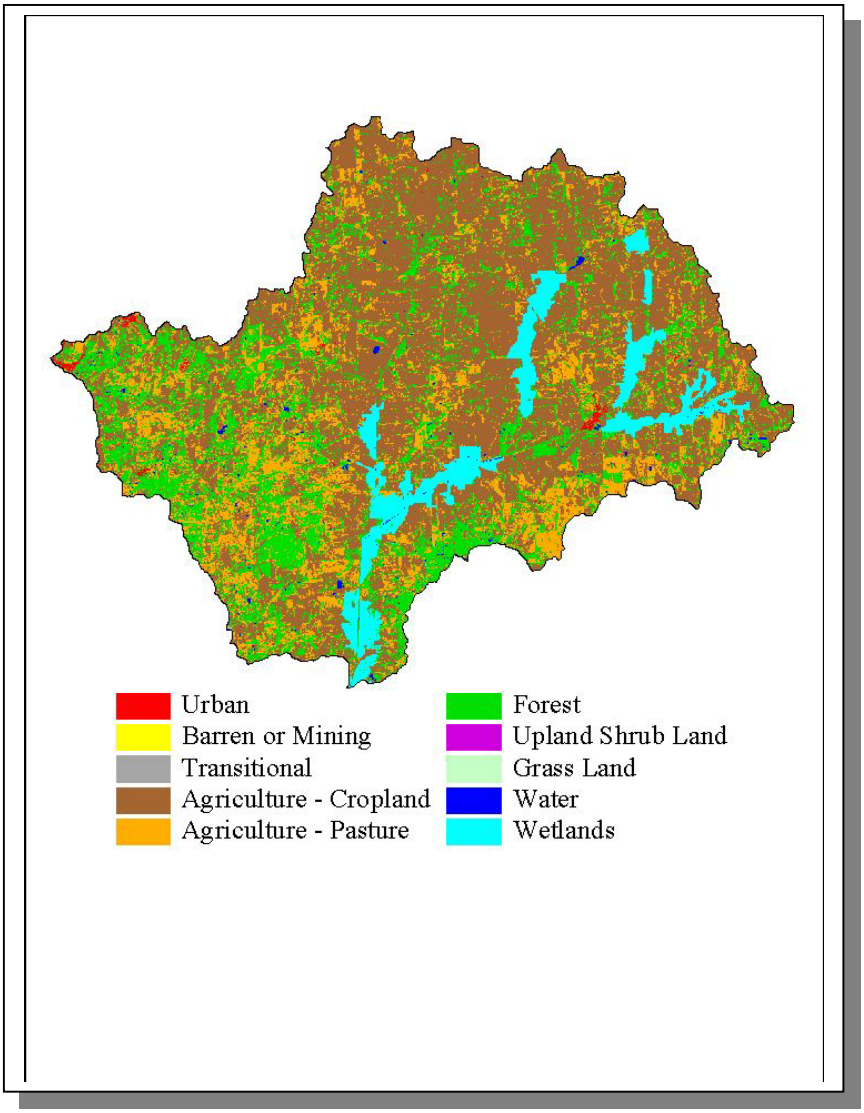

Figure 4-26. Illustration of Land Use Distribution in Subwatershed 0801020903.

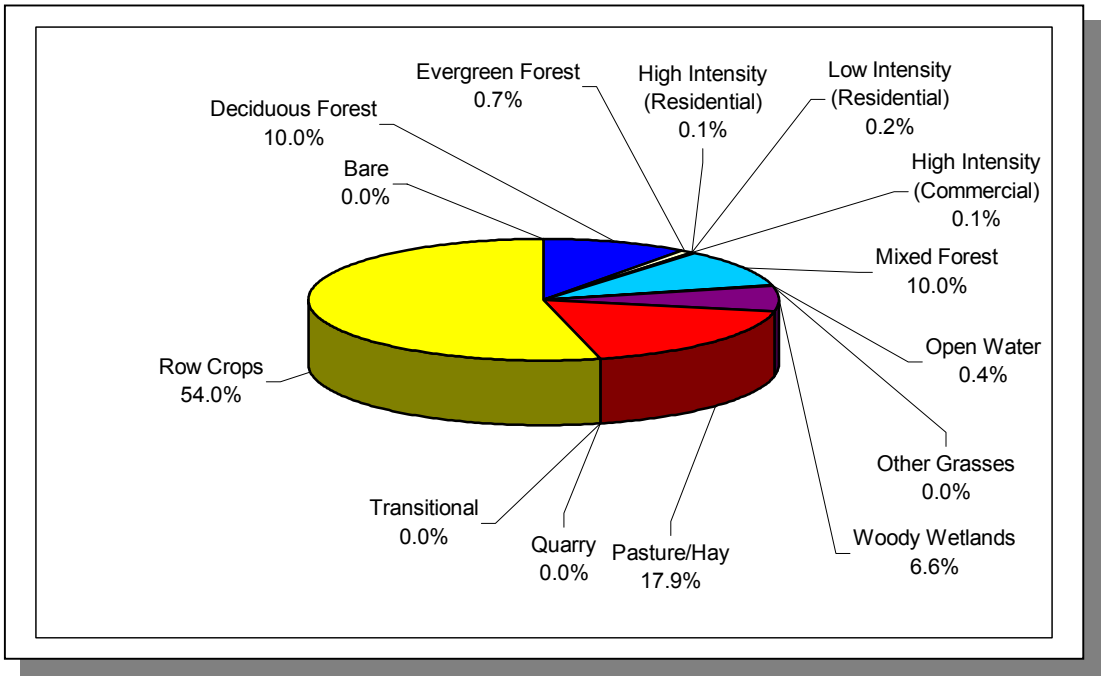

Figure 4-27. Land Use Distribution in Subwatershed 0801020903. *More information is provided in Loosahatchie-Appendix IV.*

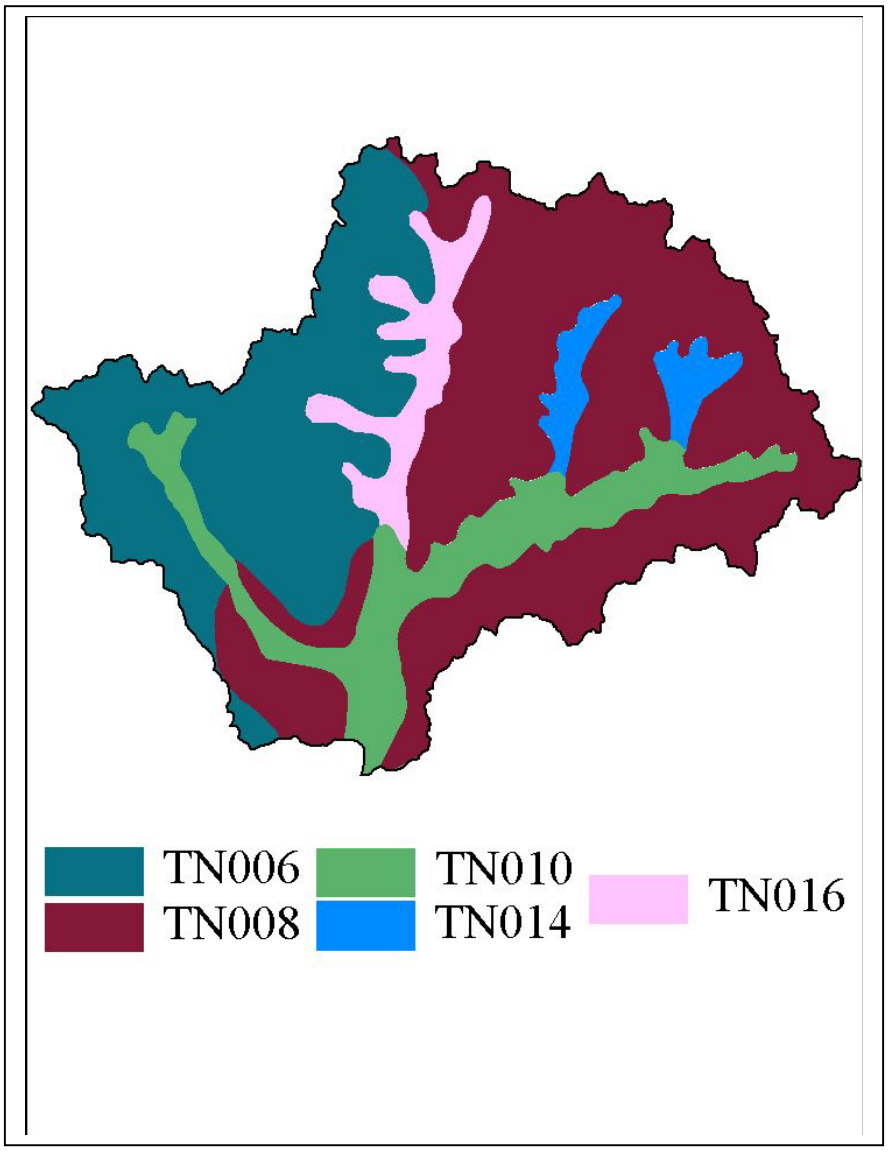

Figure 4-28. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 0801020903.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN006	0.00	C	1.30	5.42	Silty Loam	0.48
TN008	2.00	C	1.38	5.20	Silty Loam	0.48
TN010	81.00	C	1.33	5.11	Silty Loam	0.44
TN014	30.00	C	1.30	5.12	Silty Loam	0.47
TN016	0.00	C	1.30	6.47	Silty Loam	0.44

Table 4-16. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 0801020903. *More information is provided in Loosahatchie-Appendix IV.*

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		PERCENT CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Fayette	25,559	29,412	3.13	800	920	15.0
Haywood	19,437	19,709	0.38	75	76	1.3
Shelby	826,330	865,318	3.22	26,600	27,855	4.7
Tipton	37,568	45,986	22.53	8,465	10,362	22.4
Total	**908,894**	**960,425**		**35,940**	**39,213**	**9.1**

Table 4-17. Population Estimates in Subwatershed 0801020903.

			NUMBER OF HOUSING UNITS			
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Atoka	Tipton	648	280	110	169	1
Mason	Tipton	371	154	133	11	10
Munford	Tipton	2,331	894	785	104	5
Braden	Fayette	373	141	6	129	6
Total		**3,723**	**1,469**	**1,034**	**413**	**22**

Table 4-18. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 0801020903.

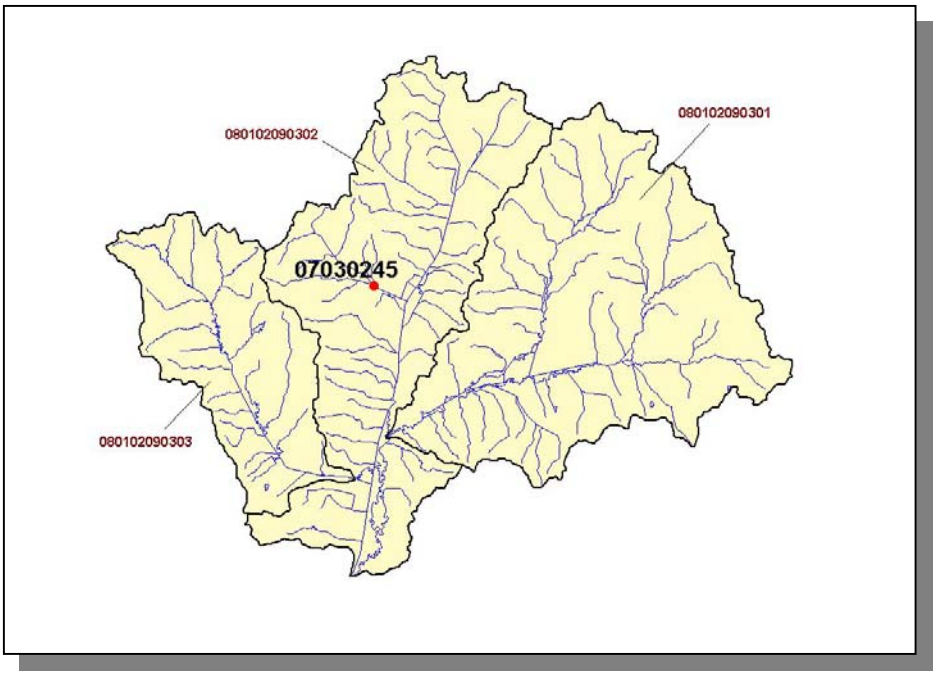

Figure 4-29. Location of Historical Streamflow Data Collection Sites in Subwatershed 0801020903. *Subwatershed 080102090301, 080102090302, and 080102090303 boundaries are shown for reference. More information is provided in Loosahatchie-Appendix IV.*

Figure 4-30. Location of STORET Monitoring Sites in Subwatershed 0801020903. *Subwatershed 080102090301, 080102090302, and 080102090303 boundaries are shown for reference. More information is provided in Loosahatchie-Appendix IV.*

4.2.C.ii. Point Source Contributions.

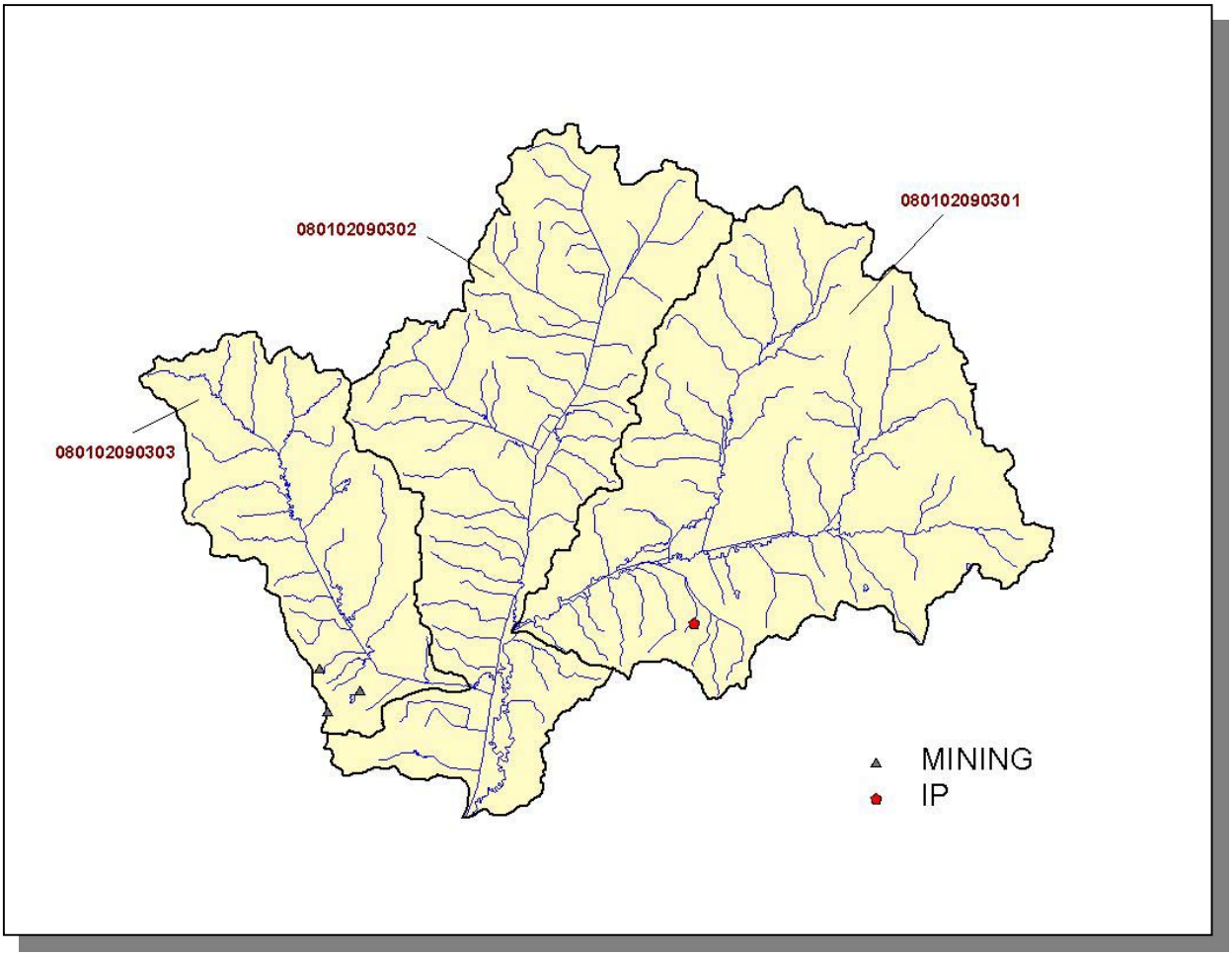

Figure 4-31. Location of Active Point Source Facilities in Subwatershed 0801020903. *Subwatershed 080102090301, 080102090302, and 080102090303 boundaries are shown for reference. More information is provided in the following charts.*

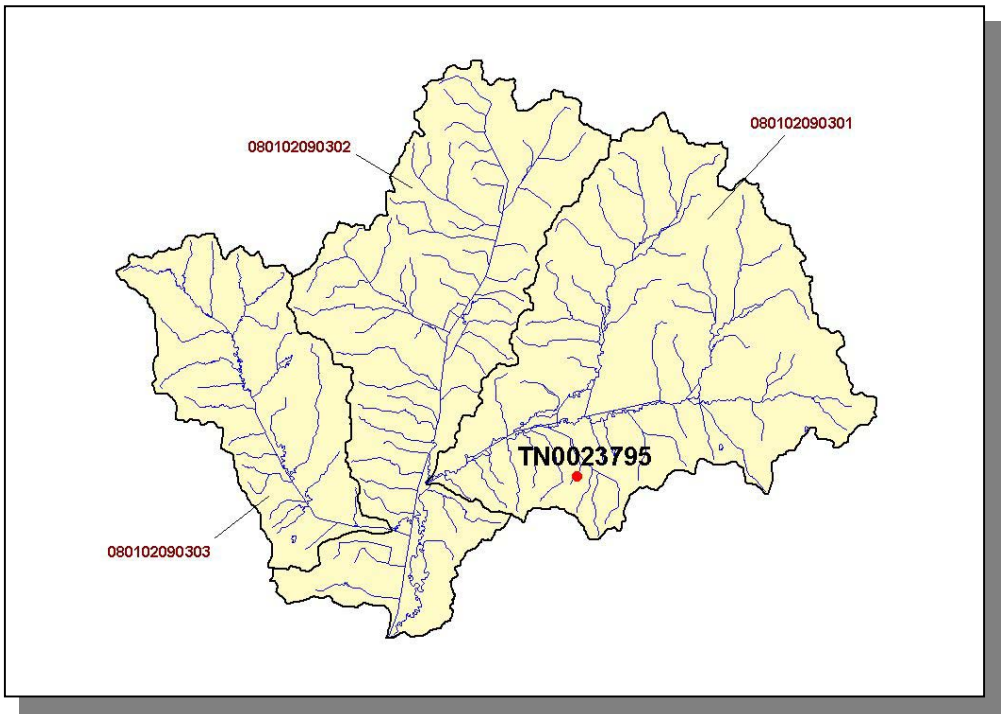

Figure 4-32. Location of Active Point Source Facilities (Individual Permits) in Subwatershed 0801020903. *Subwatershed 080102090301, 080102090302, and 080102090303 boundaries are shown for reference. More information, including the names of facilities, is provided in Loosahatchie-Appendix IV.*

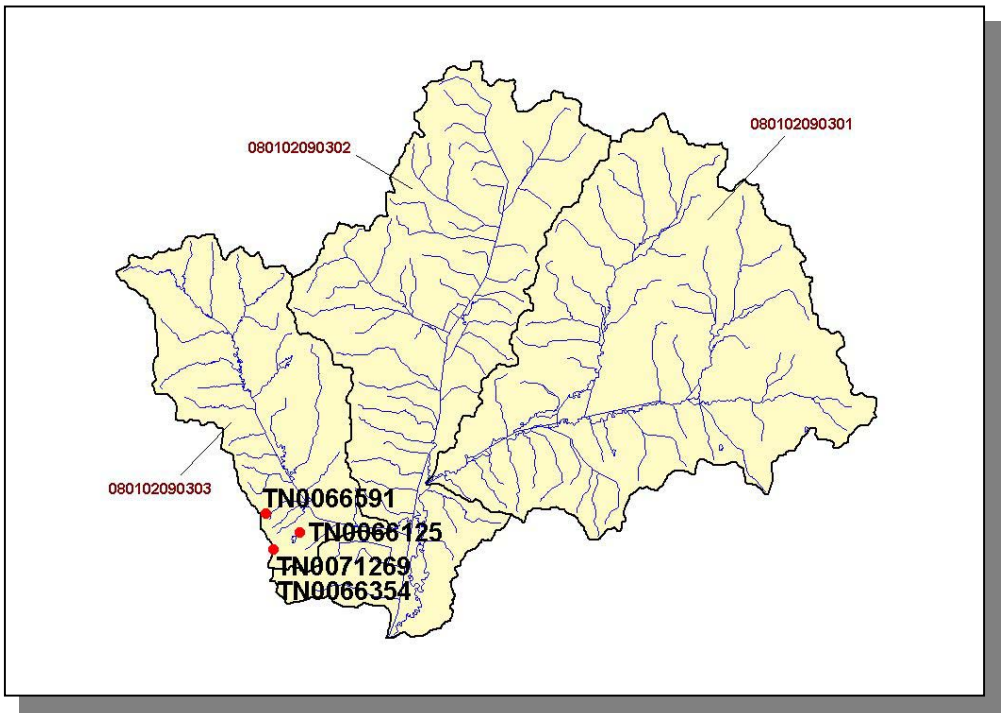

Figure 4-33. Location of Active Mining Sites in Subwatershed 0801020903. *Subwatershed 080102090301, 080102090302, and 080102090303 boundaries are shown for reference. More information, including the names of facilities, is provided in Loosahatchie-Appendix IV.*

4.2.A.ii.a. Dischargers to Water Bodies Listed on the 1998 303(d) List

There is one NPDES facilities discharging to water bodies listed on the 1998 303(d) list in Subwatershed 0801020903:

- TN0023795 (Northwest School) discharges to an unnamed trib to Beaver Creek @ RM 3.6

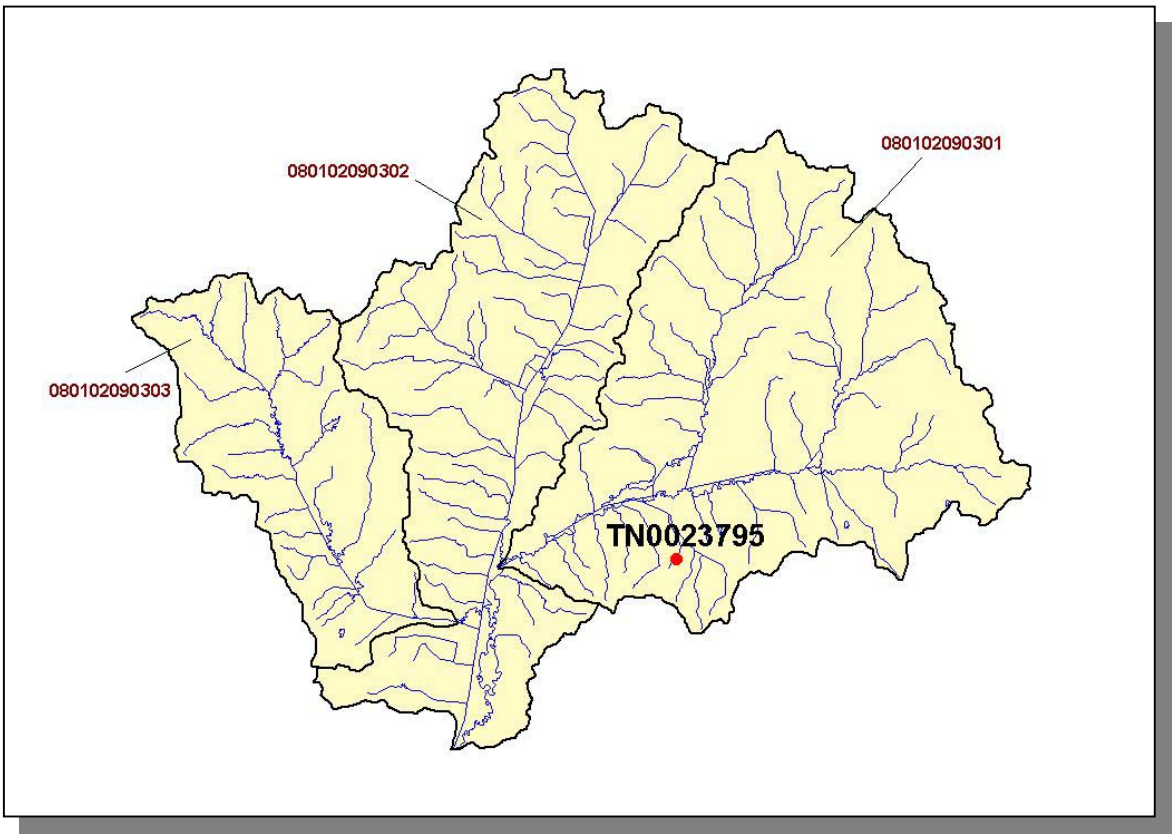

Figure 4-34. Location of NPDES Dischargers to Water Bodies Listed on the 1998 303(d) List in Subwatershed 0801020903. *Subwatershed 080102090301, 080102090302, and 080102090303 boundaries are shown for reference. More information, including the names of facilities, is provided in Loosahatchie-Appendix IV.*

PERMIT #	1Q10	3Q10	7Q10	3Q20	QDESIGN
TN0023795			0.00		0.00670

Table 4-19. Receiving Stream Flow Information for NPDES Dischargers to Waterbodies Listed on the 1998 303(d) List in Subwatershed 0801020903. *Data are in million gallons per day (MGD). Data were obtained from the USGS publication Flow Duration and Low Flows of Tennessee Streams Through 1992 or from permit files.*

PERMIT #	$CBOD_5$	pH	NH_3	FECAL	TRC	SETTLEABLE SOLIDS	TSS	DO
TN0023795	X	X	X	X	X	X	X	X

Table 4-20. Parameters Monitored for Daily Maximum (mg/L) Limits for NPDES Dischargers to Waterbodies Listed on the 1998 303(d) List in Subwatershed 0801020903. *$CBOD_5$, Carbonaceous Biochemical Oxygen Demand (5-Day); TRC, Total Residual Chlorine; TSS, Total Suspended Solids; DO, Dissolved Oxygen.*

4.2.C.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)						
Beef Cow	Cattle	Milk Cow	Chickens	Chickens Sold	Hogs	Sheep
2,319	4,198	41	8	0	995	40

Table 4-21. Summary of Livestock Count Estimates in Subwatershed 0801020903. *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older; "Chickens Sold" are all chickens used to produce meat.*

	INVENTORY		REMOVAL RATE	
County	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Fayette	152.0	152.0	1.1	3.3
Haywood	71.2	71.2	1.7	6.4
Shelby	111.6	111.6	0.0	0.0
Tipton	50.9	50.9	1.0	5.6
Totals	**385.7**	**385.7**	**3.8**	**15.3**

Table 4-22. Forest Acreage and Average Annual Removal Rates (1987-1994) in Subwatershed 0801020903.

CROPS	TONS/ACRE/YEAR
Legume (Hayland)	1.17
Grass (Hayland)	1.51
Legume/Grass (Hayland)	0.22
Grass (Pastureland)	0.69
Grass, Forbs, Legumes (Mixed Pasture)	0.83
Forest Land (Grazed)	0.00
Forest Land (Not Grazed)	0.00
Soybeans (Row Crops)	16.13
Corn (Row Crops)	12.07
Cotton (Row Crops)	14.41
Sorghum (Row Crops)	4.84
Wheat (Close Grown Cropland)	3.55
All Other Close Grown Cropland	3.08
Conservation Reserve Program Land	0.92
Fruit (Horticulture)	0.42
Other Vegetable and Truck Crops	18.07
Summer Fallow (Other Cropland)	12.43
Other Land in Farms	0.16
Other Cropland not Planted	1.82
Nonagricultural Land Use	0.00
Farmsteads and Ranch Headquarters	0.56

Table 4-23. Annual Estimated Total Soil Loss in Subwatershed 0801020903.

4.2.D. 0801020904.

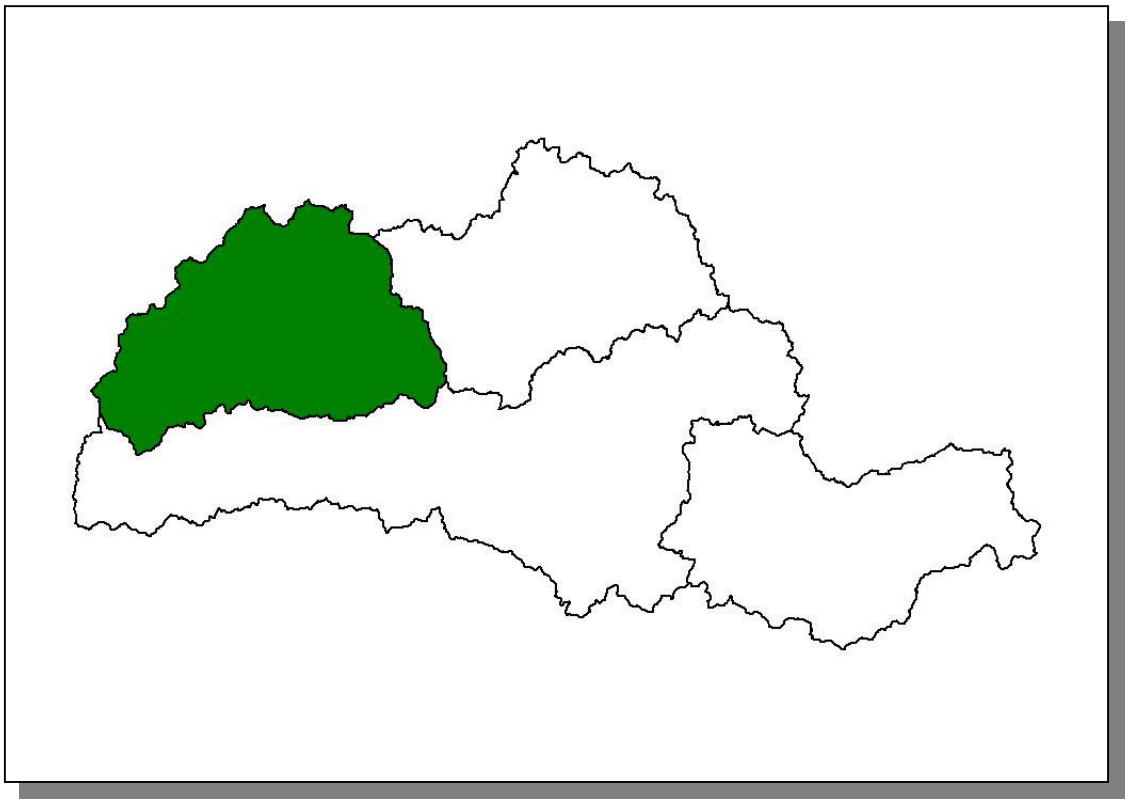

Figure 4-35. Location of Subwatershed 0801020904. *All Loosahatchie River HUC-10 subwatershed boundaries are shown for reference.*

4.2.D.i. General Description.

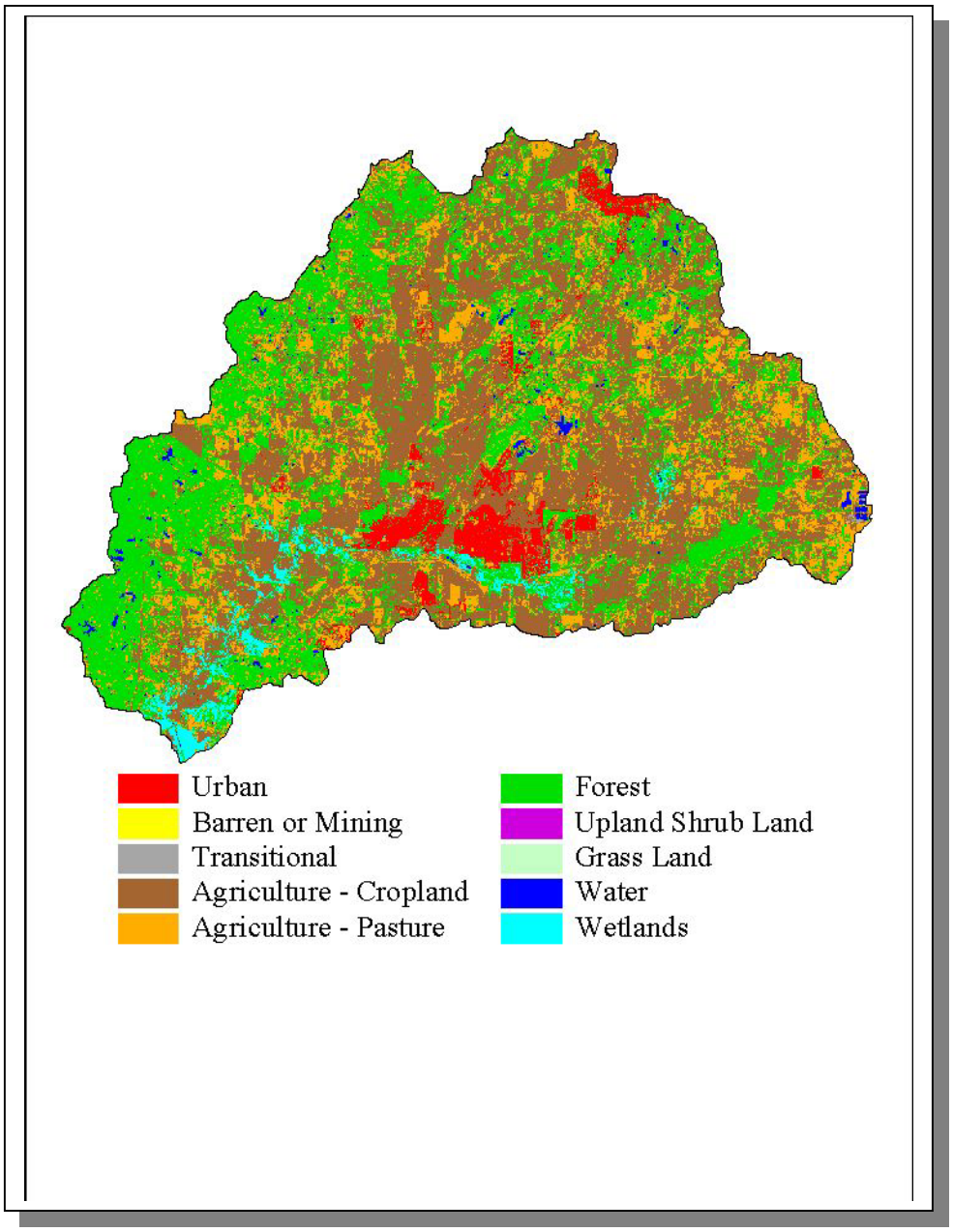

Figure 4-36. Illustration of Land Use Distribution in Subwatershed 0801020904.

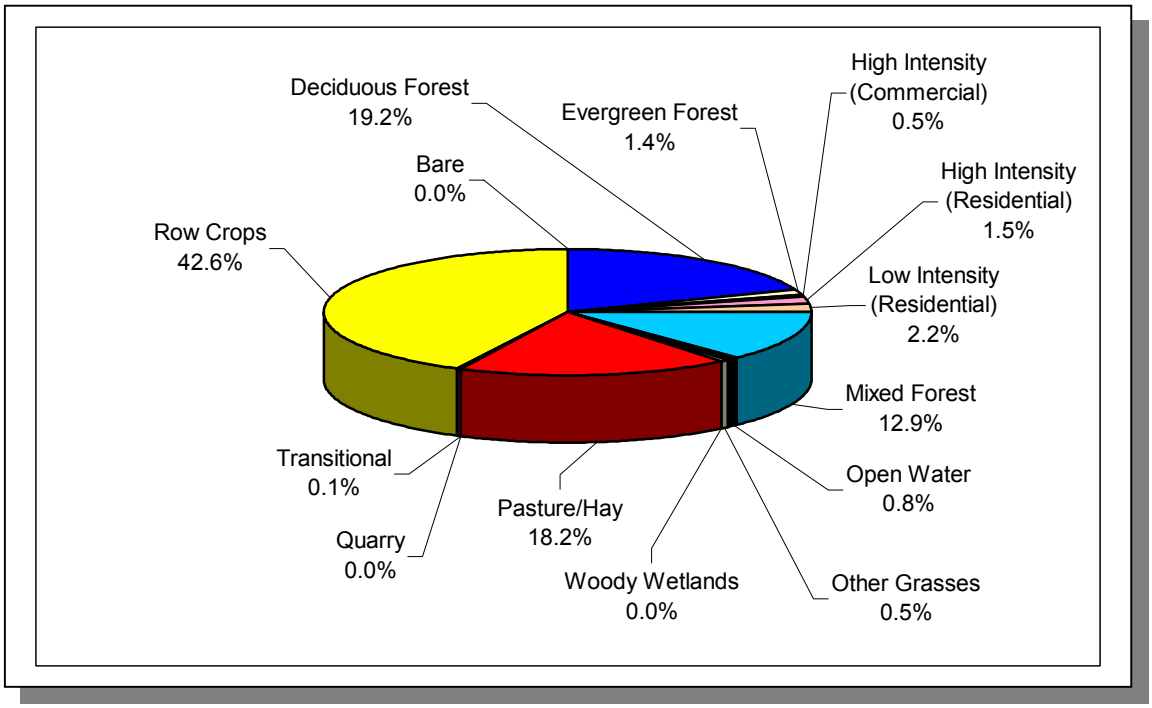

Figure 4-37. Land Use Distribution in Subwatershed 0801020904. *More information is provided in Loosahatchie-Appendix IV.*

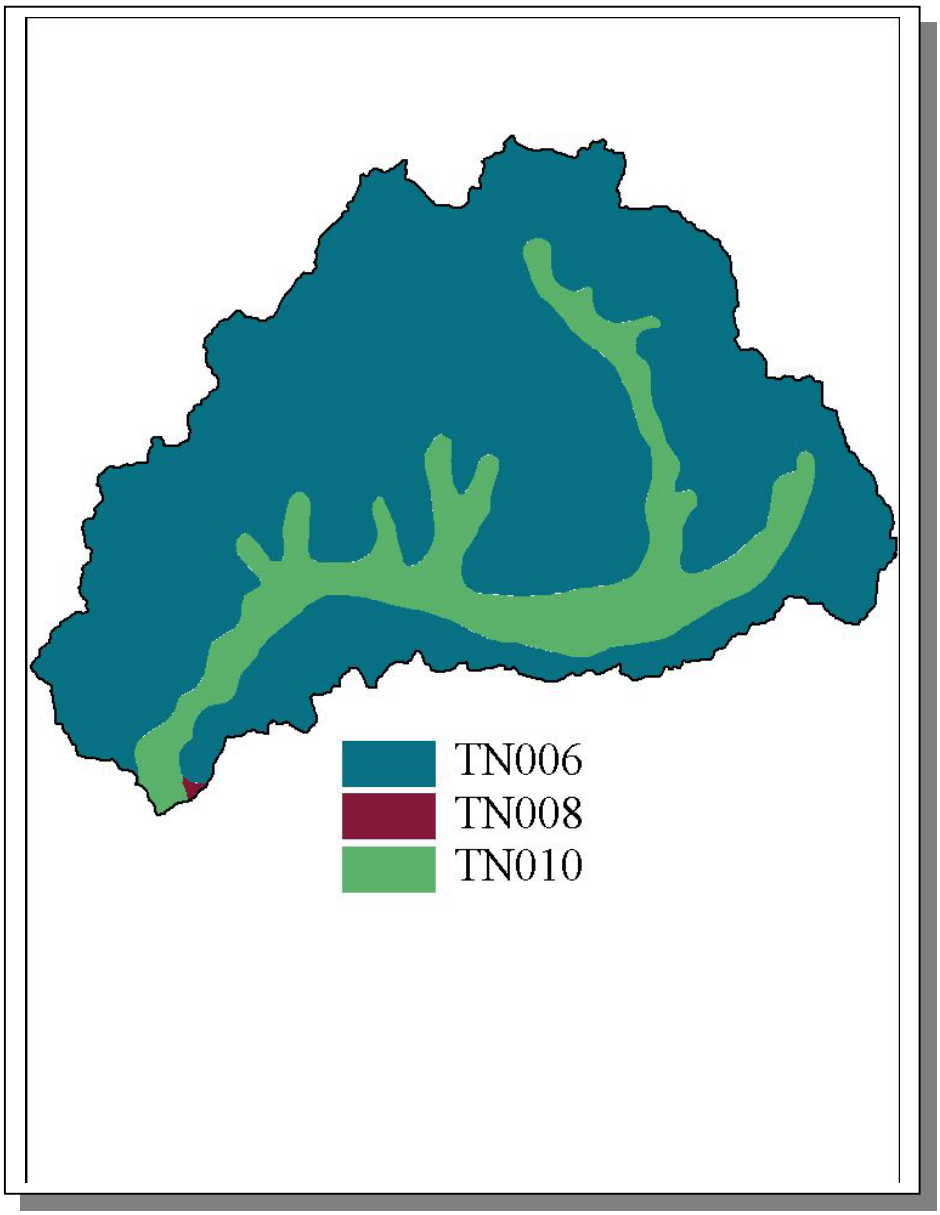

Figure 4-38. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 0801020904.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN006	0.00	C	1.30	5.42	Silty Loam	0.48
TN008	2.00	C	1.38	5.20	Silty Loam	0.48
TN010	81.00	C	1.33	5.11	Silty Loam	0.44

Table 4-24. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 0801020904. *More information is provided in Loosahatchie-Appendix IV.*

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Shelby	826,330	865,318	13.83	114,297	119,690	4.7
Tipton	37,568	45,986	10.07	3,784	4,632	22.4
Total	**863,898**	**911,304**		**118,081**	**124,323**	**5.3**

Table 4-25. Population Estimates in Subwatershed 0801020904.

			NUMBER OF HOUSING UNITS			
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Atoka	Tipton	648	280	110	169	1
Munford	Tipton	2,331	894	785	104	5
Millington	Shelby	17,866	4,440	4,269	37	134
Total		**20,845**	**5,614**	**5,164**	**310**	**140**

Table 4-26. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 0801020904.

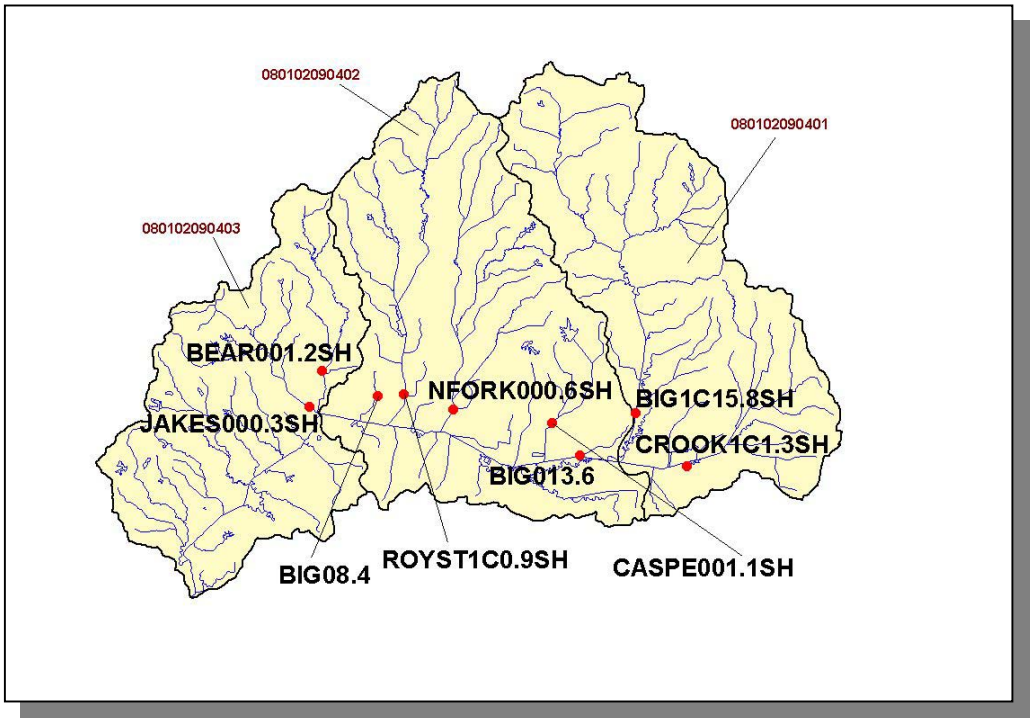

Figure 4-39. Location of STORET Monitoring Sites in Subwatershed 0801020904. *Subwatershed 080102090401, 080102090402, and 080102090403 boundaries are shown for reference. More information is provided in Loosahatchie-Appendix IV.*

4.2.D.ii. Point Source Contributions.

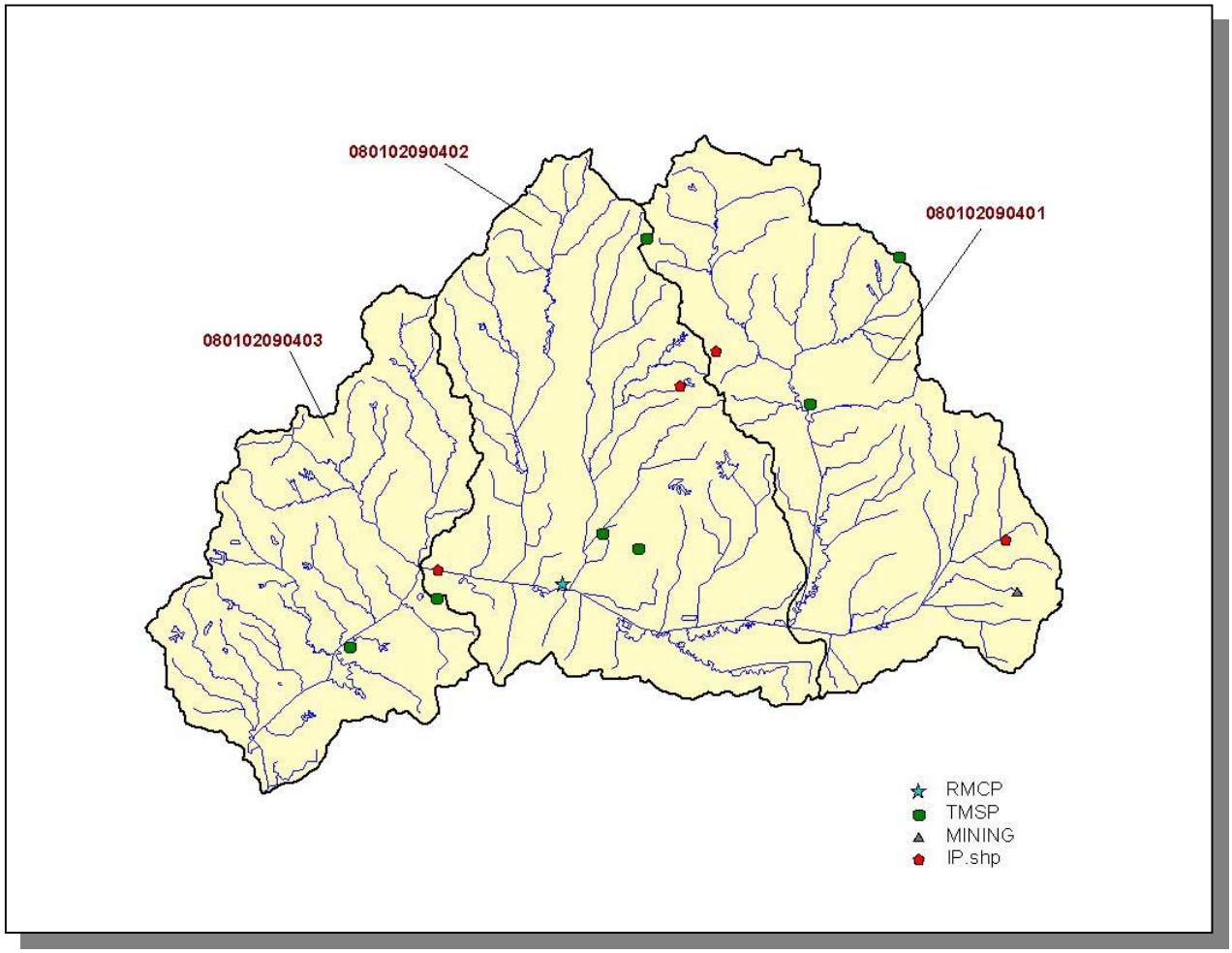

Figure 4-40. Location of Active Point Source Facilities in Subwatershed 0801020904. *Subwatershed 080102090401, 080102090402, and 080102090403 boundaries are shown for reference. More information is provided in the following charts.*

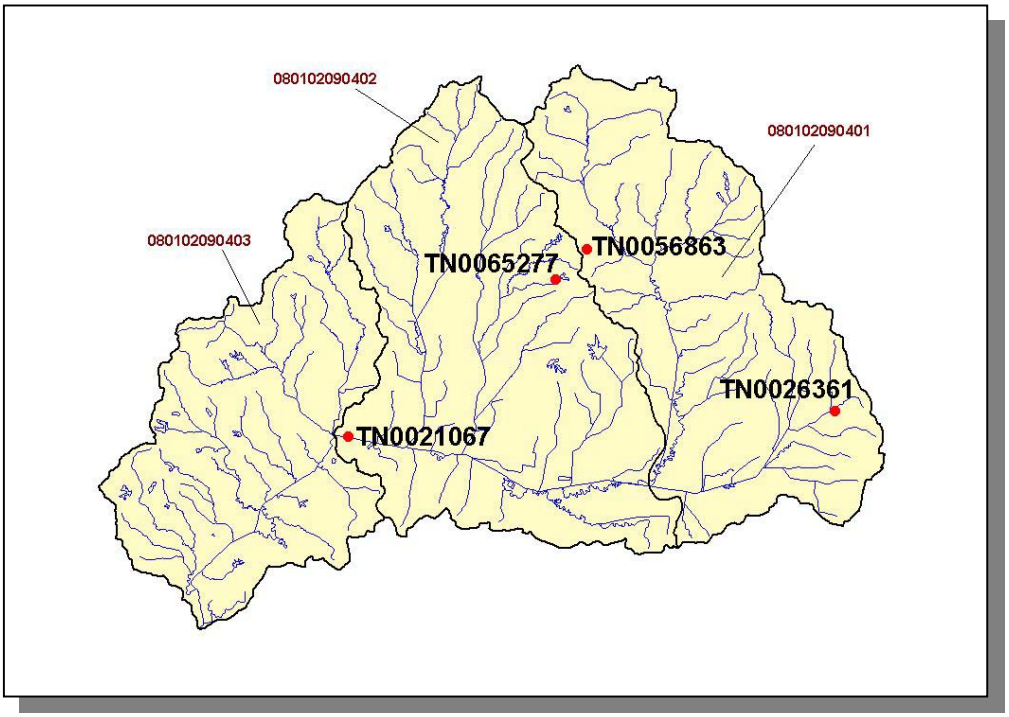

Table 4-27. Location of Active Point Source Facilities (Individual Permits) in Subwatershed 0801020904. *Subwatershed 080102090401, 080102090402, and 080102090403 boundaries are shown for reference. More information is provided in Loosahatchie-Appendix IV.*

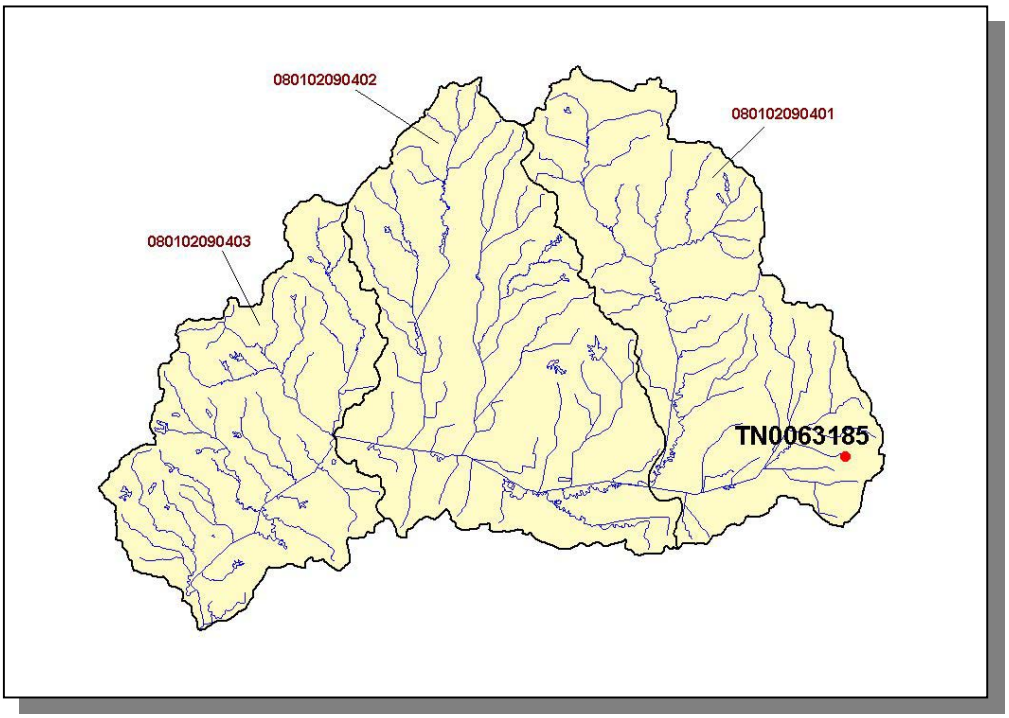

Figure 4-41. Location of Active Mining Sites in Subwatershed 0801020904. *Subwatershed 080102090401, 080102090402, and 080102090403 boundaries are shown for reference. More information is provided in Loosahatchie-Appendix IV.*

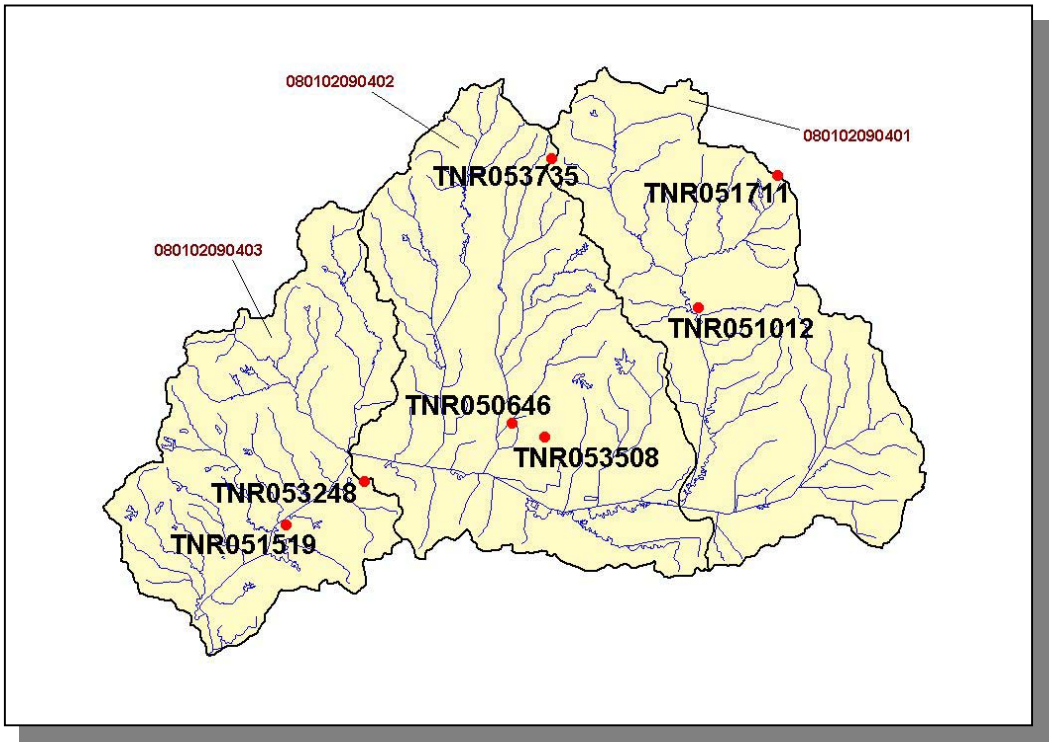

Figure 4-42. Location of TMSP Facilities in Subwatershed 0801020904. *Subwatershed 080102090401, 080102090402, and 080102090403 boundaries are shown for reference. More information is provided in Loosahatchie-Appendix IV.*

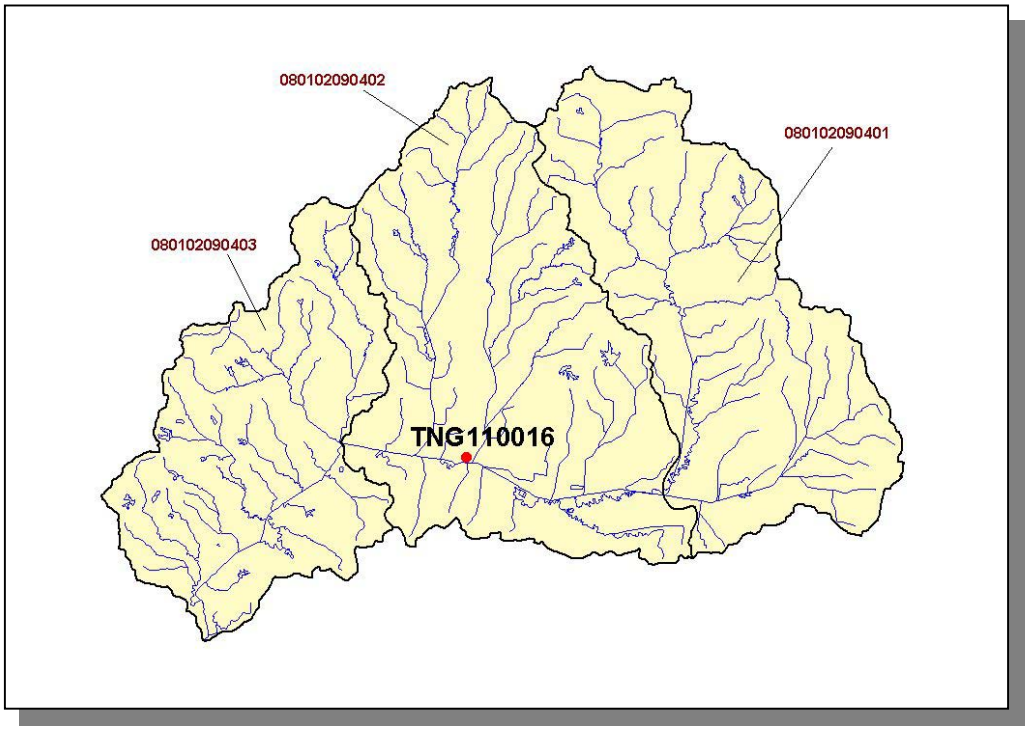

Figure 4-43. Location of Ready Mix Concrete Plants (RMCP) in Subwatershed 0801020904. *Subwatershed 080102090401, 080102090402, and 080102090403 boundaries are shown for reference. More information is provided in Loosahatchie-Appendix IV.*

4.2.A.ii.a. Dischargers to Water Bodies Listed on the 1998 303(d) List

There is one NPDES facility discharging to water bodies listed on the 1998 303(d) list in Subwatershed 0801020904:

- TN0021067 (Millington STP #2) discharges to Big Creek @ RM 6.9

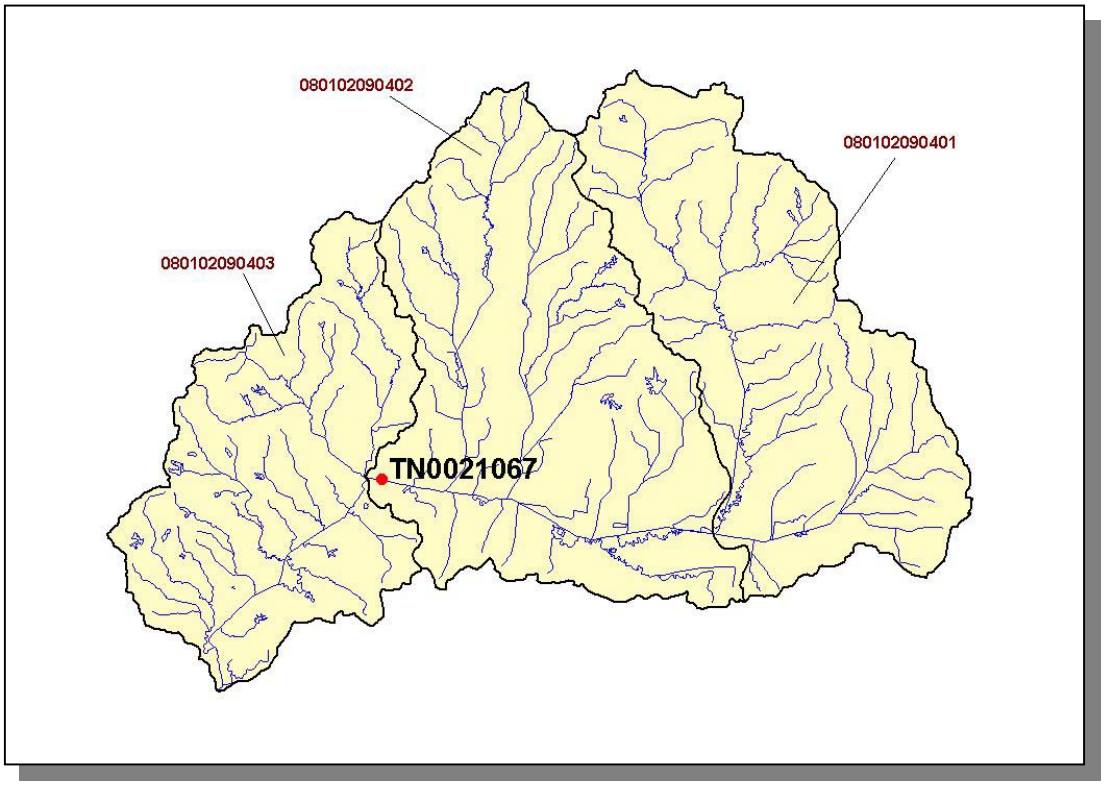

Figure 4-44. Location of NPDES Dischargers to Water Bodies Listed on the 1998 303(d) List in Subwatershed 0801020904. *Subwatershed 080102090401, 080102090402, and 080102090403 boundaries are shown for reference. More information is provided in Loosahatchie-Appendix IV.*

PERMIT #	1Q10	3Q10	7Q10	3Q20	QDESIGN
TN0021067	1.98	2.04	2.09	1.87	5.80000

Table 4-28. Receiving Stream Flow Information for NPDES Dischargers to Waterbodies Listed on the 1998 303(d) List in Subwatershed 0801020904. *Data are in million gallons per day (MGD). Data were obtained from the USGS publication Flow Duration and Low Flows of Tennessee Streams Through 1992 or from permit files.*

PERMIT #	P
TN0021067	X

Table 4-29. Monitoring Requirements for NPDES Dischargers to Waterbodies Listed on the 1998 303(d) List in Subwatershed 0801020904.

PERMIT #	$CBOD_5$	pH	WET	NH_3	FECAL	TRC	SETTLEABLE SOLIDS	TSS	DO
TN0021067	X	X	X	X	X	X	X	X	X

Table 4-30. Parameters Monitored for Daily Maximum (mg/L) Limits for NPDES Dischargers to Waterbodies Listed on the 1998 303(d) List in Subwatershed 0801020904. *$CBOD_5$, Carbonaceous Biochemical Oxygen Demand (5-Day); WET, Whole Effluent Toxicity; TRC, Total Residual Chlorine); TSS, Total Suspended Solids; DO, Dissolved Oxygen.*

4.2.D.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)						
Beef Cow	Milk Cow	Cattle	Chickens	Chickens Sold	Hogs	Sheep
2,126	14	3,737	11	0	128	53

Table 4-31. Summary of Livestock Count Estimates in Subwatershed 0801020904. *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older; "Chickens Sold" are all chickens used to produce meat.*

	INVENTORY		REMOVAL RATE	
County	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Shelby	111.6	111.6	0.0	0.0
Tipton	50.9	50.9	1.0	5.6
Total	**162.5**	**162.5**	**1.0**	**5.6**

Table 4-32. Forest Acreage and Average Annual Removal Rates (1987-1994) in Subwatershed 0801020904.

CROPS	TONS/ACRE/YEAR
Forest Land (Grazed)	0.00
Forest Land (Not Grazed)	0.00
Corn (Row Crops)	5.91
Soybeans (Row Crops)	14.00
Cotton (Row Crops)	12.36
Sorghum (Row Crops)	4.91
Wheat (Close Grown Cropland)	4.24
Grass (Hayland)	0.67
Legume (Hayland)	3.35
Grass (Pastureland)	0.50
Grass, Forbs, Legumes (Mixed Pasture)	0.46
Conservation Reserve Program Land	0.87
Other Vegetable and Truck Crop	10.38
Summer Fallow (Other Cropland)	12.43
Other Cropland not Planted	6.04
Nonagricultural Land Use	0.00
Farmsteads and Ranch Headquarters	0.52

Table 4-33. Annual Soil Loss in Subwatershed 0801020904.